THE

# WESTERN JOURNAL

OF

# MEDICINE AND SURGERY.

NOVEMBER, 1849.

ART. I.—*Practical Medicine and Surgery.* By T. S. BELL, M. D., of Louisville, Kentucky.

The leading and important duty of medical literature is to present accurate pictures of disease, and approved methods of successful treatment. The day of attenuated theory and extravagant speculation is passing away, and more genial methods of investigation, than those formerly pursued, are rapidly displacing time-worn errors, and inducing salutary treatment of disease.

The duties of the successful practitioner of medicine are becoming much more onerous than they were under the old regime, because he has light now to guide him prosperously through the labyrinths of pathology. Under the ascendant stars of humoralism, chemical and mechanical pathology, the investigator was without com-

pass, rudder or pole star, and the path to his haven was entirely of a conjectural character.

The genius of Bichat first opened the way to the healthful revolution that has taken place in pathological investigations. The zeal, energy, application and perseverance of that remarkable man conducted him to a noble eminence in medical science, and, although he was unable to entirely shake off the shackles of the predominant systems of his day, the world is indebted to him for the erection of that Pharos, which not only revealed the shoal waters of error, but shed its light upon the roadsteads of truth. The cultivation of Pathological Anatomy has made Practical Medicine almost a new science, and it never can command too much of the attention of the medical practitioner.

In a paper on the subject of cholera, prepared sometime since for this Journal, we took a hasty glance at the range of investigation that must necessarily be made by the practitioner for each prescription, and the importance of this subject is so great, that we shall make no apology for pressing it upon the attention of our readers again.—In Stille's *Elements of General Pathology*, a most excellent diagram is given of the matters of inquiry that must engage the attention of a practitioner in making a scientific prescription:

A. PRELIMINARY INQUIRIES.

| | | |
|---|---|---|
| *a.* | Age. | Profession, and social condition. |
| | Sex. | Habits of living. |
| | Temperament. | Diseases of Parents, Relations and Children. |
| | Constitution. | |
| | Idiosyncrasies. | Previous diseases. |
| *b.* | The probable or attributed cause of the illness. | |
| | The mode and period of the attack. | |
| | Premonitory symptoms present or absent. | |
| | The course of the disease. | |
| | The previous treatment. | |

B. THE PRESENT CONDITION OF THE PATIENT.

| | |
|---|---|
| *a.* The Exterior. | General appearance. |
| | Color of the skin and complexion. |
| | Expression. |
| | Degree of muscular development. |
| | Decubitis. |

- *b.* The Muscular System.
  - Strength.
  - Movements.
  - Paralysis.
  - Voice.
  - Convulsions.
  - Spasms.
- *c.* The Nervous System.
  - General and special sensibility.
    - Pain, its characters and intensity.
    - State of all the senses.
  - The Intellect.
    - Activity.
    - Delirium.
    - Illusions and hallucinations.
    - Coma.
  - Sleep.
    - Duration.
    - Dreams.
- *d.* The Digestive Apparatus.
  - Appetite.
    - Degree.
    - Perversions.
    - Thirst.
  - The Tongue.
    - Size and shape.
    - Color.
    - Coat.
    - Moisture.
  - Salivation, Mastication, Deglutition.
  - Abdomen.
    - Nausea
    - Vomiting.
    - Pain.
    - Sensibility on pressure.
    - Stools,
      - Their frequency, quality, &c.
    - Piles.
    - Matters vomited.
    - Size of abdomen.
    - Tumors.
    - Effusion.
    - Dimensions, &c., of liver, spleen, kidneys, and bladder
- *e.* Respiratory Organs. The signs revealed by
  - Inspection.
  - Mensuration.
  - Auscultation.
  - Percussion.
- *f.* Circulatory Organs.
  - The Heart. . . Physical examination.
  - The Arteries. . Pulse. Sounds.
  - The Veins. . . Development. Murmurs.
- *g.* The Skin.
  - Color.
  - Dryness.
  - Temperature.
  - Sensibility.
  - Eruptions.
- *h.* The Excretions.
  - Perspiration.
  - Sputa.
  - Urine.
  - Feces.
  - Menstrual fluid.

  Inquire, where appropriate, into their
  - Quantity,
  - Color,
  - Peculiarities of form.
  - Consistence,
  - Specific gravity,
  - Mixture,
  - Odour,
  - Taste, and
  - Reaction with chemical tests.

These are the mere externals of inquiry; they are but the names of large fields of thought, that must be explored for the development of action. The pathological condition of the organs, of which the diagram gives only signs or symptoms, and the therapeutical means for changing the morbid actions into healthy ones must also

pass in review before the mind of the practitioner. What a world of intelligence and judgment is required for that act, which is often performed as the merest adventure! The diagram we have given is an index to the labors of the physician who lives in harmony with his profession, and we have given it in order to awaken the careless, to the immense importance of the business of prescribing. He who falls below the standard laid down in this diagram, must often guess his way, and do evil, where good might have been accomplished.

These hints are but preparatory to a synopsis we design to present of the practical details of recent medical periodicals. We know of nothing we can lay before our readers of more interest and value than a record of the efforts of practising physicians to relieve suffering. In this way the experience of the many becomes the property of each individual, and the rays of medical light, scattered over an immense field of vision, are gathered to a focal point, where all may feel their enlightening influences.

*Surgery.*—The August number of the Dublin Quarterly Journal of Medical Science contains an interesting and valuable paper on Cervical Abscesses, by William Hargrave, Professor of Surgery in the Royal College of Surgeons in Ireland. The observations of Dr. Hargrave are upon subjects that frequently occupy the attention of the physician, and it is necessary that he shall know the perilous character of those operations which may end in death, when he least expects such a result. We quote three of these cases in the hands of Dr. Hargrave:

1. "An abscess formed on the right side of the neck in a young child; a peculiar thrill and tremor was observed in it; after much deliberation it was punctured, pus mixed with blood flowed from it, then pure blood; the orifice was closed: the child died that evening. The post mortem examination exhibited a cribriform communication between the abscess and the external jugular vein."

2. Mr. Liston punctured an abscess on the right side of the neck, with which the common carotid artery had communication. The artery was tied low down in the neck. On the fifteenth day the patient died, and it was found that the artery had opened into the abscess.

3. An abscess formed spontaneously in the neck five months before death; a white purulent discharge from a fistulous opening in the supra-sternal fossa remained, from which arterial hemorrhage occurred; it was arrested by compression, but returned on this means being discontinued. The patient sank in forty-eight hours from the first invasion of the hemorrhage. The post mortem examination exhibited an old abscess of a large size, occupying the front of the neck below the larynx, and extending so as to reach the arch of the aorta, and the arteria innominata. The cellular coat of the arteries was removed, and the fibrous one to some extent; and a lacerated opening of the arteries, about a quarter of an inch in length, penetrated the lining membrane.

There are few who feel the perilousness of hemorrhage in opening abscesses of the tonsils, but Dr. Hargrave records dangerous cases of this operation. Two sources of danger are found in the tonsillitic arterial circle, and the ascending pharyngeal artery. These, though perilous, need not be fatal, but the third source of danger must be instantaneously fatal. This fatality is from wounding the internal carotid artery.

These are matters of fact that cannot be too vividly impressed upon the mind of the practitioner. We have known of fatal cases of hemorrhage from ulceration about the tonsil, and the imminent danger of ulcerative process in that region, must be apparent to any one who has before his mental vision the arterial ramifications in the region about the tonsils. And when suppurative action, as a sequelæ to scarlatina or strumous inflammation, has taken place in the tonsils, it is well enough for the practi-

tioner to remember that incisions into the sac of the abscess may reveal to him a scene of the most urgent danger. Let it be granted that this danger is a rare event; this rarity of itself throws over the case the necessity of caution, and shows the value of the admonitions, which Dr. Hargrave has thought proper to urge upon the attention of his medical brethren. He says: "So critical and serious are these consequences in practice as to demand every circumspection and examination before abscesses in this region are punctured, but also active subsequent watching in order to detect the first symptom of bleeding, whether of the more evident or of the doubtful kind. We should, therefore, be prepared to meet and ward off this unpleasant, if not fatal occurrence, in cases that otherwise promise a most satisfactory termination. From an attentive examination of the abscesses which have been complicated with active losses of blood, I find that the majority of them were in subjects of a more or less cachectic habit, suffering from struma, or bad forms of scarlatina, perhaps also of a cancerous diathesis." We cannot too strongly urge upon the attention of our readers these valuable and important admonitions. They should not be neglected by any one who has anything to do with cervical abscesses.

In illustration of the dangerous character of these abscesses, we must condense an interesting case reported by Dr. Hargrave, and we do it more to show the treatment, than to impress the lessons taught by Dr. Hargrave as to the character of cervical abscesses.

In January, 1849, a patient, aged sixty-one, was admitted into the City of Dublin Hospital. He had a tumor occupying the space between the symphysis and the angle of the jaw on the left side. The tumor was firm, but careful examination showed fluctuation. When punctured, a quantity of straw-colored serum, mixed with scrofulous-looking matter was discharged. The abscess was

then poulticed. On the following day, the patient was seized with rigors and an intense headache, sickness of stomach, and pain in the tumor. These symptoms were followed by erysipelas. Under appropriate treatment the discharge from the abscess continued to improve up to the 20th of January, seven days after the abscess was opened, something like grumous blood appeared on the poultice. Three days after, in the night, a gush of blood came from the cavity of the abscess; it flowed per saltum —was of a florid color, and was arrested by placing the finger on the wound. When this pressure was taken off, the blood came out, in a jet the thickness of the little finger, and was thrown fully a yard distant. A consultation determined upon tying the common carotid, and the operation was performed by a transverse incision made two fingers' breadth above the clavicle; the sterno-mastoid muscle was then carefully divided its entire breadth upon a director, and the vessel was then easily secured. As soon as the ligature was drawn upon the vessel, the hemorrhage was at once arrested. Under appropriate treatment the case went on favorably until the 5th of February, when another hemorrhage occurred, which prostrated the patient very much. The wound was dressed with matico leaves moistened with hot water, laid thickly over the incision; over these a dossil of lint was placed, well saturated with an infusion of the leaf, and secured by adhesive plaster. The wound was daily dressed in this way. In twenty days and a half the ligature came away, and there was no more hemorrhage.

Dr. Hargrave is strongly impressed with the belief that the *matico* dressings were of material benefit in restraining the hemorrhage, and he testifies to its value as a styptic in other cases that have come under his observation.

We have given the principal features of this paper on Cervical Abscesses, because the facts are important and

should be generally known. And they are the more important because these cases usually fall into the hands of general practitioners, who are not prepared to perform such surgical operations as are necessary in taking up the subclavian or common carotid.

Dr. Hargrave lays a great deal of stress upon his novel mode of reaching the carotid by a transverse, instead of a longitudinal incision. Dr Hargrave says: "From the facility of securing the artery by the plan now proposed, I consider it deserving of a place in the systematic works in this department of Surgery, and would term it the *transverse operation, or section of the sterno-mastoid muscle for the ligature of the common carotid artery.*"

We cannot quit this department of the subject, without calling attention to the merits of the *Matico*, referred to by Dr. Hargrave as a valuable styptic. A great deal of testimony has accumulated now, on the character of the matico as an agent for controlling hemorrhages, and, as it has not found a place in the systematic treatises on materia medica, we shall supply the deficiency by bringing forward the history of the use of the Matico.

In 1839, at a meeting of the Provincial Medical and Surgical Association of York, Dr. Jeffreys of Liverpool, introduced the Matico, as a styptic. The botanical name of the plant is Piper Angustifolium, and it is a native of Peru. Soon after Dr. Jeffreys called attention to it, the Matico, as an external application, was used with success in the Dundee Infirmary, by Dr. Munro. It exerted a happy influence over a hemorrhage from "a considerable branch of the temporal artery." Compression and cold applications failed to give any relief, but the application of the leaf, *not the powder*, arrested the hemorrhage. A hemorrhage from a wound of a branch of the palmar artery was treated in the same way with equal success.

The external use of the leaf having proved highly successful, a resort was made to its internal use. Dr. Jef-

freys reports the case of a patient "who had been subject for two months to excessive discharge of pure blood and coagula from the vagina, amounting to nearly a quart in a few days, occurring every ten days or a fortnight, and followed by a serous and muco-purulent discharge." The usual treatment failed, and health was restored in a few days, by the use of a wineglass full of the infusion of Matico four times daily. In another case a hemorrhage from the bowels, an infusion of Matico, in the proportion of half an ounce to the pint, of which three tablespoonfuls were taken every four or six hours, cured the patient by the use of three doses.

In hemorrhage of the bowels, during fever, Dr. Watmough states, in the Provincial Medical Journal, that the infusion of senna leaves and the matico, two drachms of each in a pint of boiling water, and taken frequently in doses of a wineglass measure, is very successful, particularly in the melæna of typhus fever.

Dr. Horne, of London, thus speaks of Matico, as an anti-hemorrhagic medicine: "A patient suffered from an alarming epistaxis, occurring spontaneously, in October last. All remedies of the usual character failed; the case was considered beyond the reach of relief, and the brothers of the patient were sent for. One of the brothers commenced the use of the Matico, and in six hours the hemorrhage ceased, after having continued for days.—There is a hemorrhagic diathesis in the family, and it has descended to the children of one of the brothers."

A relative of the family was rapidly sinking towards the grave, from disease and uterine hemorrhage, the latter of which baffled the ordinary remedies. Under the use of the Matico, the bleeding ceased, and the patient recovered.

These are the testimonials to the value of Matico, as a styptic, which we have gleaned from the European medical journals. We are far from supposing that this Peru-

vian plant will displace all other means for arresting hemorrhage; the utmost that we hope for it is, that it is really useful, and may take its place confidently among the means for controlling dangerous bleeding. It is due to the time-honored standards among the anti-hemorrhagic remedies, to say they have never yet failed in our hands.

*Arsenical preparations.* The French evidently pay but little attention to the progress of medicine in England.—The use of arsenical preparations in periodical diseases has recently been recommended in one of the leading medical journals of Paris, as something novel, and the testimony that usually dances attendance upon all *new* remedies, is gravely brought forward to favor arsenical preparations to the exclusion of Peruvian Bark. In the grave forms of fever and ague, there is no medicine that is comparable to Quinine. In an experience of nearly eighteen years, in a region where all forms of periodical disease may be seen, quinine has never disappointed us but once, and when given properly it excels all other remedies. In order to derive full advantage from its use, it should be given at least eighteen or twenty hours before the accession of the chill. As a general rule it is best to give the full dose at once, say 20 or 25 grains. If these rules are attended to, the failure to interrupt a chill will be a rare event. We have personally used broken doses, and the whole dose at once, and the latter is infinitely preferable. It is less troublesome to the patient, and his friends, secures rest and freedom from annoyance, and will more certainly remove the disease. This is not only the result of personal experience, but also of a great deal of observation. We have found, however, that females do not tolerate the full dose as well as men do. In the former, it creates more disturbance in the head, than the divided doses.

We should regret to see the arsenical preparations introduced generally into practice. They require a great

deal of watching, much more indeed than is given to cases of chill and fever, and without vigilance, the remedy must do a great deal of harm. There must not only be an entire absence of all inflammatory action, but all tendency to it must be absent in order to tolerate the arsenical preparations. There are few cases, indeed, of fever and ague that will not yield as readily to other medicines as to the arsenic, and there can be no apology for its use in cases that will do as well with less dangerous articles. The arsenical preparations require a great deal of close watching, and they must be discontinued as soon as they manifest their peculiar action on the conjunctiva, or the stomach.

We have quoted in another part of the present number of this Journal, some remarks on the use of arsenic in certain affectious of the skin. In those cutaneous diseases that have a furfuraceous character, especially some forms of porrigo, Fowler's solution is an invaluable remedy. Dr. Hunt, of England, has called the attention of the profession, very forcibly to the use of this solution in all diseases of the skin that have the character we have mentioned. There are forms of erysipelas in which furfuraceous signs show themselves, and they will be materially benefitted by Fowler's solution. This, we regard as greatly the safest, best and most manageable form of arsenical medicine. But the practitioner must not forget that arsenical preparations are inadmissible in any cutaneous affection attended with active inflammation. The class of skin diseases in which arsenic is admissible is a small one. The experience of those who have used it most says: that among the exanthemata, *urticari tuberosa* is the only one that can be benefitted by arsenic. In papular diseases, *lichen* is the only one that can tolerate arsenic, and it can do so, only in cases when the chronic character is well marked. Among the vesiculæ, *chronic eczema*, when assuming the squamous character, is the only one

that can improve under the use of arsenic. In pustular diseases, arsenic is not advisable, but it has been used successfully in *impetigo*, under the restrictions we have endeavored to enforce. But it is in squamous affections of the skin, when they become chronic, and especially in *lepra* and *psoriasis* that the arsenical solution most triumphantly acquits itself.

We cannot enforce too strongly upon the memory of our readers the necessity of caution in the use of arsenic. A remedy of such power requires great judgment, and the physician who uses it cannot be too cautious in prescribing it, nor too vigilant in watching its effects upon the system. As soon as any untoward symptom shows itself, the arsenic must at once be discontinued. The judicious use of this agent will not disappoint the vigilant physician, but the negligent one should by all means let it alone.

*Neuralgic affections.* This form of disease occasionally baffles all ordinary attempts at relief. We have seen cases in which all the agents of the materia medica were set at defiance, and which raged uncontrolled under the use of purgatives, antispasmodics, tonics, and powerful anodynes. A case of this kind is vividly impressed on our memory, and in order to give some assistence to those who may be bewildered as we were, we subjoin a history of the leading features of the attack.

Mrs. H. S. was delivered in 1845 of her first child.—The labor was not attended with any unusual occurrence, and the mother passed the first two days free from suffering of any description. We have never seen a case that was more propitious in all its characteristics, up to the beginning of the second week. At that time the patient complained of pain in the right groin, extending down the thigh, towards the knee. We feared, at first, that phlegmasia dolens was about to show itself, but all the diagnostic symptoms of that disease were absent, and the case

soon showed the unmistakable signs of neuralgia of a very grave character. The pain was of a most excruciating character; the patient could not tolerate the least motion of the limb. There was no constitutional disturbance; all of the system, except the leg, was in a healthful condition. The lochial discharge was as it should be, the bowels regular, and the appetite good.

The treatment consisted of local applications, with a great variety of internal remedies. The most powerful stimulating liniments that could be borne were freely used; the limb was enveloped in hot fomentations; and all measures proved futile. The various preparations of opium, and other anodynes, such as lactucarium, conium, henbane, &c., failed to give any kind of relief. During the fortnight that these remedies were used, there was no mitigation of the suffering. The iodide of potash, the vinous tincture of colchicum, and all other remedies of this class were tried freely and faithfully without any useful result. The patient was nearly worn out with suffering and loss of sleep, and the case assumed a desperate appearance. In this state of things, the continued affliction of the sufferer, and the failure of all common means for her relief, we remembered a suggestion of Johnson's Materia Medica, that a camphor vapor bath often proved powerfully anodyne. The suggestion was immediately improved, by placing the patient in a cane-bottomed chair and disposing quilts around her so as to confine the vapor properly. An ordinary tin pan was placed over a spirit lamp resting on the floor, under the chair, and as soon as the pan was thoroughly heated, half an ounce of powdered camphor was thrown upon it. A powerful vapor was thus created, and so perfect was its effect that the patient could scarcely credit her own sensations when she found herself free from pain. This was her first respite for nearly three weeks. She enjoyed a refreshing night's rest, and next day seemed entirely well. On the follow-

ing day she was much alarmed by the commencement of pain in the left groin, and for some hours the suffering was severe. In this case the pain extended upwards, instead of downwards, as in the first attack. It occupied one half of the abdomen, the linea alba being the dividing line between the healthy and the suffering parts of the abdomen. The patient, a very intelligent lady, declared that the bowels on the left side of the line were in the most intense agony that could be conceived of, while the portion of the intestines on the right side was free from any kind of uneasiness. The camphor vapor bath was again resorted to, and perfectly relieved the sufferer. In a subsequent labor, this patient recovered without any return of this singular and obstinate neuralgia.

We have often used this remedy since it was resorted to in this case, and in no instance has it ever disappointed our expectations, and we commend it to the attention of our professional brethren as well worthy of use.

*Croup.* Dr. Horace Green of New York has recently published a work "On the Pathology of Croup, with remarks on its treatment by topical medications," which should command the confidence of the profession. In this new work, Dr. Green enforces with ability, the novel treatment he had previously recommended for laryngeal inflammations, in a treatise on "The Diseases of the Air Passages." The new work on croup has received a very flattering reception in England. The British and Foreign Review speaks of it in terms of warm commendation, and the Dublin Quarterly Journal of Medical Science, with some little disparagement, speaks favorably of the book.

The fundamental principles of Dr. Green's pathology of croup, are that it is essentially an "inflammation of the secreting surfaces of the fauces, larynx and trachea, which is always productive of a membranaceous or an albuminous exudation," and that this "invariably commences in the superior portion of the respiratory pas-

sages, and extends from above downwards,—never in the opposite direction."

We shall not pause to call in question the universality of the truth of these propositions. Our particular object is to direct attention to Dr. Green's novel treatment. He recommends a solution of the crystals of nitrate of silver, from two to four scruples to the ounce of distilled water, as the topical application. The instrument with which this is to be applied is "a slender piece of whalebone, about ten inches long, slightly curved at one end, to which curved extremity is securely attached a small round piece of soft sponge, with a diameter of not more than half an inch." We would suggest the propriety of a very thorough examination of the sponge, to see that it is free from sand and grit.

Dr. Green says:

"The instrument being prepared, by suitably saturating the sponge with the solution to be applied, and the head of the child being firmly held by an assistant, and the base of the tongue depressed with a spoon, or any other suitable instrument, the operator carries the wet sponge quickly over the top of the epiglottis, and on the laryngeal face of this cartilage; then passing it suddenly downwards and forwards, passes it through the opening of the glottis into the laryngeal cavity."

There may be a fear, among those inexperienced in this topical application, arising from the strength of this solution. The fear is, however, groundless. The mucous membrane bears this solution remarkably well. Some time ago, Mr. Guthrie, the English surgeon, denied very indignantly that he had recommended an injection of a solution of nitrate of silver, twelve grains to the ounce of water, in gonorrhea, and utterly condemned the practice. But we have repeatedly seen a solution of twenty grains of nitrate of silver to the ounce of water, used in the early stages of gonorrhea, with great benefit to the patient.

Upon another point Dr. Green thus speaks:

"Ordinarily, I have applied in croup, a solution composed of from two scruples to a drachm of the salt, dissolved in one ounce of distilled water. A remedy of this strength I have freely applied to the fauces, pharynx, and into the larynx of young children, in a large number of cases during the last eight years, and in no single instance have I observed any indications of the dangers of suffocation from its employment. On the contrary, I have repeatedly observed, and have once before remarked, that much less bronchial irritation is produced by the application of the nitrate of silver into the larynges of young children who are suffering from croup, than where it is introduced into those of adults who are affected by chronic disease of the larynx."

The views of Dr. Green, though novel, are perfectly rational, and deserve confidence.

*Chloroform in Cases of Parturition.* When etherization was first announced, the opinion was confidently entertained that an innocent and salutary anesthesia might be induced whenever circumstances demanded it. The application of ether in dental operations was hailed with great satisfaction, and its speedy extension to the highest departments of surgical art naturally followed. The most confident assurances were given that ether was applicable to all cases, and that no one need suffer pain who wished to avoid it. In the midst of these cheering accounts, contradictory reports were given, and both serious and mortal cases were recorded as the direct result of etherization. The latter features of etherization increased so fearfully that its advocates diminished rapidly, and there was reason to suppose that the attempt to resort to anesthesia universally, would have the effect of driving etherization into total disuse. In the midst of these expectations, a new anesthetic agent was announced, and Dr. Simpson, who introduced it into midwifery practice,

indulged strong hopes, that what had been labor heretofore, was to be a pleasant dream of Paradise. The most confident statements were given to show its harmlessness, and to beat down all opposition by strength of assertion. Dr. Simpson has shown the zeal of an apostle in his efforts to induce the use of chloroform in cases of labor, and evidently hopes that he has created a new branch of art, which he calls "Anesthetic Midwifery." In a recent pamphlet, published by Dr. Simpson, we are told that the author had administered chloroform in 245 cases of labor, and of this number five died, a statement which conclusively shows that chloroform has no tendency to dimimish mortality in parturient cases, for the loss of one patient in forty-nine, is rather unusual, even in Evrope. A full examination of the documentary testimony that has accumulated on this subject, goes to show that the sanguine expectations formed of the superlative good of anesthetic agents in midwifery are far from a chance of being realized.

We purpose, in these remarks, to make something of a survey of the use of chloroform, and to ascertain its positive merits. To Dr. Simpson, of Edinburgh, the profession is indebted for the introduction of this anesthetic agent, and he has been diligent and zealous in his efforts to urge its merits upon his professional brethren. Anesthetic medicine is, comparatively, a new field, in which there is yet much to observe, and in which much improvement may be made. We have not yet years of observation, in matters of anesthesia, on which to found positive principles of practice, and every thing that contributes to throw light on the interesting questions of anesthetic medicine should be welcomed with sincere satisfaction.—It is a fearful thing to use an agent capable of destroying the powers of the medulla oblongata, and thereby destroying life. An occasional occurrence of this kind is sufficient to make us pause, and deliberate well before

yielding to the fascinations of the theory of anesthesia. At the same time, we cannot be indifferent to its demands upon the practitioner of medicine. Between the enthusiastic admiration of zealots, and the cold calculations of the timid, there is a *juste milieu* in which duty and prudence may meet.

From a careful analysis of the experiments and observations that have been made by those qualified for the interesting duty, we gather the following physiological results: "Chloroform requires about 288 parts of serum of the blood to dissolve it; and taking the calculation that the body contains, on an average, about twenty-six pounds of serum, twenty-four minims is about the twenty-eighth part of the quantity the blood will take up—the quantity, consequently, for producing complete insensibility." Dr. Snow believes that anesthetic agents "produce their effect by their mere presence, impeding those combinations between the oxygen in the arterial blood, and the nervous tissues, on which the functions of the nervous system depend." If these views are correct, and we see no reason to doubt the fact, we can be at no loss to account for the fatal issues that have been recorded in anesthetic medicine. When we impede the proper actions of arterialization and of the nervous tissues, on which life depends, we are unable to say to this agent thus far, and no farther shalt thou go. It is evident that fatality does not always depend upon mere idiosyncracy, nor upon diseases of the heart, lungs or arteries, which may be easily detected in the latter class, but upon an unseen and inscrutable condition of the nervous system itself. We cannot always reason ourselves into safety in the administration of anesthetic agents, and nothing could be much more deplorable than the consciousness that in an effort to destroy pain, we had taken life itself.

Mr. Gruby, by experiments of the Magendie order, finds the following results:

"The arterial blood is redder (or at least as red) where chloroform has been inhaled, than (or as) where it has not."

"The venous blood becomes of a clear red color under the use of chloroform, losing its usual reddish-black tint."

"Venous blood in an animal under the influence of chloroform is redder than non-chloroformized arterial blood, and nearly as scarlet as such blood when penetrated by chloroform."

Here, then, is an unnatural state of things in the vital fluids of the body, which is sufficient in itself to awaken inquiry, and which admonishes loudly to prudence. The administration of agents capable of exerting an immense control over the sanguineous and nervous systems, and which cannot themselves be controlled, is no light or trivial matter. The action of the surgeon who undertakes to perform an operation which he thinks may destroy life, but who knows that the diseased condition demanding the operation will perform the same melancholy office, is al together a different matter from the use of anesthetic agents, which may destroy life, without tending in any degree to save it. The mere existence of pain does not destroy life, and anesthetic medicines do not pretend to do anything more than the mere obliteration of consciousness.

When death first showed itself in the flowery paths of anesthesia, the zealous advocates of chloroform and ether endeavored to account for the deplorable result by the most foolish and garrulous reasoning. Logic in swaddling clothes always looks pitiable and miserable enough, but never more so than when it endeavors to palliate blunders that have taken life away. Mr. Meggison, a surgeon, of Newcastle, England, met, in his own practice, with the first fatal case of chloroformization, and, as an honest man, and one who feels the imperative responsibility of the medical profession, he came before the public with all

the details of the case. He did not seek to blink the question, but honestly confessed that his patient died by the use of chloroform. Mr. Simpson, of Edinburgh, at once reviewed the case, and gave a specimen of special pleading in behalf of his hobby that would do no discredit to the renown of that firm which is immortalized in the "Pleader's Guide." In obedience to his mission, he distorted the plain statements of Mr. Meggison, and under the combined influence of perversion and a neglect of the facts, Mr. Simpson easily persuaded himself that chloroform had nothing to do with the death of Mr. Meggison's case—a conclusion that few could reach after reading the detail given by Mr. Meggison. There has been a fearful accumulation of death under the influence of chloroform since Mr. Meggison's case, and the impressive lessons given by this fatality have not been without their influence. That indiscriminate use of chloroform which threatened to inundate the civilized world has departed; routine and indiscreet practitioners have become timid, and the public have learned to be cautious. There are enough *recorded* cases of fatal and serious results in the use of anesthetic agents to admonish men of the fearful powers of these compounds, and we know enough to enable us to say understandingly that a large number of the fatal cases have not been reported.

Upon these premises it becomes a question of some interest to determine whether a practitioner should resort to the dangerous use of anesthetic agents, for the mere purpose of destroying the consciousness of pain, during the brief time employed in a surgical operation, or in the more protracted suffering attendant upon parturition. If the question were put to the practitioner whether chloroform should be used in any case where there was reason to apprehend death, a negative answer would be responded promptly. What, then, should it be in the circumstances universally acknowledged, that we have no means

of determining a priori whether resuscitation or death will be the result of the administration of chloroform?—The fact that it has been taken once with impunity does not guarantee a similar result in a second trial. The fatal case which occurred a short time since in the New York Hospital is proof of this, for the patient had previously taken chloroform, and recovered from the effects without any trouble, but in the second trial he died.

While the zealous advocates of chloroform looked upon the first cases of fatality, they were for awhile astounded, but, determined to hang on to their hobby despite of light and knowledge, they rushed into the delusion that fatality was the result, not of the chloroform, but of the mode of its administration. They roundly asserted that death came from the exclusion of atmospheric air, while inhaling the chloroform, and confidently affirmed that the life of the patient, and, what was equally as dear to some of these gentlemen, the use of anesthetic agents, might be saved by a proper method of inhaling the chloroform. But, alas for the cause, it was found that fatality still moved attendant upon the improved inhalation, and the reluctant verdict was admitted, that death was the result of the chloroform *per se*. Of the fatal effects in many cases of chloroformizing, and of the serious consequences in numerous instances, there can be no kind of doubt. And in view of this state of things, what are we to think of the statements and logic contained in the following remarks by Dr. Bigelow: "if there is one consideration calculated to arrest attention in the history of etherization, it is, that although the anesthetic agents have been open to liberal use in every part of the civilized world, whether ignorantly, experimentally, or carelessly, although thousands have experienced their good effects, and although the physiologist, the ether opponents, and the coroner, have been equally ready to seize upon, and to exaggerate any case of accident that

might seem to fall within their range—yet it is probable that the number of cases thus publicly suspected, have been less than ten, while the conclusive instances of direct relation between the anesthetic agent and death, are two in number. Can antimony or opium show as clean a bill of health for the same period? Can leeches or the lancet do better?" This is certainly an extraordinary statement, and the more so from being endorsed by the American Medical Society, by its publication in their Transactions. It is humiliating to see such a gentleman as Dr. Bigelow, a shining light in a noble profession, offering such blind incense to an idol. At the very time that Dr. Bigelow was offering this testimony to the comparative harmlessness of etherization, medical men were abandoning it on account of its fatality, and were blindly rushing to another anesthetic, under the view halloo of Dr. Simpson. Rabelais has immortalized such things in his record of the sheep of Panurge, which jumped over the precipice into the sea, because the bell-wether tumbled over. The abandonment of ether for another agent of anesthesia, stamps the character of Dr. Bigelow's statement of the harmlessness of etherization, and the apologies, the twistings and turnings of the chloroform-bitten advocates, for its fatal issues, speaks of the substitute in language not to be misapprehended.

The logic of Dr. Bigelow is exceedingly objectionable. In the hands of the discreet, intelligent physician, antimony, opium, leeches and the lancet are not necessarily attended with fatality, and why compare these effects with those of an agent, in the administration of which, neither intelligence nor discretion are safeguards? And if it be admitted that antimony, opium, leeches and the lancet are occasionally fatal *per se*, is it not a question, worthy, at least, of consideration, whether the physician is right in adding to the deadly agents of the materia medica? The agents of the materia medica, named by Dr.

Bigelow, have an extensive relation to disease, and are, confessedly, powerful means in the treatment of a vast variety of diseases. But nothing of this kind can be claimed for chloroform; the only good effect it produces is the induction of a state of the nervous system in which consciousness is lulled to sleep. And Dr. Bigelow has learned, probably, by this time, that the fatality of anesthetic agents is far beyond the comparative proportion he made in the sunny days of etherization.

We have already shown, by the admission of Dr. Simpson himself, that there was more acknowledged fatality in his statistics of puerperal anesthesia, than in the same number of cases where no agents of the kind were employed. It is certainly much more the duty of the physician to study how he can do the greatest amount of good to his patients, than to make experiments to ascertain how near he can come to killing a patient, without doing it. In employing a driver for a carriage we should certainly confide much more in one who would give a dangerous place as wide a berth as possible, rather than one who would drive so as barely to escape. And multitudes of the cases of chloroformizing very strongly resemble the cases referred to by Dr. James Johnson, in which heroic doses of medicine had been given. He said an examination of the statements left one in doubt whether they were great cures or great escapes.

Let us now consider some of, what may be called, the minor evils of anesthesia, reported by the friends of chloroform. We think they are sufficient, of themselves, to make men pause and consider well. It is now admitted by the warmest advocates of anesthesia, that its agents are comparatively useless in natural labors, but some still urge their use in preternatural cases. Dr. Ranking says: "It is abundantly evident, as it appears to us, that, judiciously administered, *excepting in a few cases of idiosyncrasy*, it [chloroform] is not only innocuous both to mother

and child, but that the different stages of labor are passed through with a diminution of suffering, and also that a positive mechanical improvement in the physical condition of the parts implicated is brought about. It is a question whether its use is to be advised indiscriminately in those cases of natural labor in which the pains are comparatively slight; but we do not hesitate, taking the present aspect of the question to be the true one, to state, that in every case of natural labor, in which the suffering is inordinately great, or whenever operative interference is necessary, anesthesia *ought* to be induced; and we moreover consider that the accoucheur who, under such circumstances (no special contra-indications existing), neglects to avail himself of the inestimable benefits thus placed within his reach, neglects a large portion of the duties which are attached to his responsible office."

Dr. Ranking "excepts" a "few cases of idiosyncrasy," and if he had given us criteria, by which to determine, a priori, these cases of idiosyncrasy, he would have removed a formidable objection to the remainder of his remarks. The difficulty of resolving the question whether the anesthetic agent will produce an evanescent or a final insensibility, constitutes, in our judgment, almost an insurmountable objection to its use. It is a direful duty inflicted upon the feelings of a sympathetic mind, to stand by the bed-side of a delicate female and see her writhing in agony through the tedious hours of labor; but it is as dust in the balance, when compared with the feeling that we are looking upon the chloroformized corpse of one who confided her all to our keeping, and who was made a victim by that confidence. Medical art is widely astray from its province, when it places a patient in a condition of peril that art cannot relieve. Of the truth of this position there can be no doubt. If we had means by which to tell when it would be safe, and when perilous, to resort

to anesthesia; if we could reason safely from one administration of its agents to another; or even if we could control their direful effects when they begin to show themselves, there would be weight in the urgent remarks of Dr. Ranking, but in the entire absence of all such safeguards, they are entitled to but little consideration.

Dr. Edward Murphy urges the following conclusions:

1st. "Chloroform does not interfere with the action of the uterus, unless given in large doses, which is unnecessary."

2nd. "It causes a greater relaxation in the passages and perineum. The mucous secretion from the vagina is also increased."

3d. "It subdues the nervous irritation caused by severe pain, and restores nervous energy."

4th. "It secures the patient perfect repose for some hours after delivery." There are cases where these few hours of "perfect repose" have extended into eternity.

5th. "*Its injurious effects, when an ordinary dose is given, seem to depend upon constitutional peculiarities*, or improper management."

In the first part of this fifth division, Dr. Murphy admits a fact, that, in our judgment counterbalances all the good results of his four preceding divisions. He admits that "injurious effects, from ordinary doses, seem to depend on constitutional peculiarities," and the ever-recurring objection springs up—we cannot determine the existence or non-existence of these "constitutional peculiarties" beforehand, and one fatal case would far outweigh years of successful practice. We cordially subscribe to the sentiment of Dr. Tyler Smith, published in the London Lancet. He says: "I do not envy the remorse which must follow the conviction, that by such practice the momentous arrangements of a dying hour have been entirely prevented."

We return to a consideration of Dr. Murphy's deduc-

tions, as they seem to cover the whole ground. He asserts that "chloroform does not interfere with the action of the uterus," but in this he is not borne out even by the advocates of anesthesia. Dr. Denham, in an able report on the use of chloroform, in the "Dublin Journal of Medical Science," says: "When a patient in labor is first brought under the influence of chloroform, it will generally be found that the pains are diminished in force, frequency and duration. After some time they generally regain much of what they had lost, and though apparently weaker, they yet seem to tell with equal or even better effect upon the progress of the labor. The muscles of animal life are first affected, *and if a complete state of anesthesia be induced, the action of the uterus is impaired.*"—Dr. Denham's cases fully substantiate the latter statement. In his third class of cases, "in which chloroform appeared to be not only useless, but, when persevered in, positively injurious," we meet with such details as the following:

"She was put under the influence of chloroform, but the pains soon became weak, and at the end of an hour ceased entirely; the chloroform was now left off, soon after which the pains increased to such a degree that we began to dread rupture of the uterus."

In another case, "the state of anesthesia was soon induced, and easily kept up. * * * In twenty minutes after she began to inhale she appeared to be almost in a state of coma—the pains gradually diminished, and at the end of two hours had almost entirely ceased. The chloroform was now discontinued, when the pains returned with considerable force."

In Dr. Denham's 12th case, he says: "Instrumental assistance, from the state of the parts, was out of the question, and I determined to try the effects of chloroform, to mitigate, if possible, her agonizing screams, which accompanied each pain. She was speedily under

its influence, * * * and it decidedly put an end to her expressions of agony; but the labor pains nearly ceased, and for two hours and a half that I kept her in a state of anesthesia more or less profound the child never advanced."

Case 13th. "She was put under the influence of chloroform when in the second stage of labor, the pains at that time being regular and the child advancing; at the end of fifty-three minutes we were obliged to discontinue the chloroform, as the pains had almost entirely ceased. Soon after this they again returned, and the child was born in two hours."

Case 14th. "She was put under chloroform, when turning was effected with great ease; uterine action was completely put a stop to, and did not return after the feet were brought down. We were, therefore, obliged to discontinue the chloroform; the pains soon returned, and the labor was completed in a short time."

These are conclusive facts upon Dr. Murphy's first deduction.

We cannot acquit ourselves of a duty, towards this Report of Dr. Denham's, which we recognize and perform with pleasure, without commending it in the strongest terms to the attention of our readers. It is the most philosophical and practical monograph we have seen on the subject of chloroform in its application to midwifery. The closing remarks are conceived in a most commendable spirit, and expressed in beautiful language. Dr. Denham says: "We have yet much to learn about anesthetic agents. Should my example induce others to follow up the subject, I shall feel satisfied. The object of all interested in this question ought to be, and I am sure is, to benefit mankind. However much, therefore, we may differ upon this or any other subject, I trust we shall ever be found debating, not as the briar with the thistle, which can wound the deepest, but as the olive with the vine,

which can bear the best fruit, and which most mitigate the sufferings of fallen humanity in the hour of nature's trial."

On the subject of Dr. Murphy's second deduction, the advocates of anesthesia are by no means agreed. They do not confirm the statement that "the passages and perineum are greatly relaxed" by chloroform. Dr. Simpson quotes one of these advocates as saying, that "this supposed effect, appears to him 'at least uncertain and accidental,' and that out of twenty-five cases in which he used it, he had two instances of rupture of the perineum,"* certainly not a very brilliant or conclusive proof of "greater relaxation." Another of Dr. Simpson's protogees, quoted by Dr. Montgomery, says: "that the influence of this drug, by accelerating the second stage of labor, especially towards its termination, by removing the resistance made by the muscles at the outlet of the pelvis, entails a risk of laceration of the perineum in certain cases, 'unless very great care is taken.'"

We find, then, that all the important and valuable deductions of Dr. Murphy are errors, the advocates of anesthesia being the judges in the case.

One other point, on the fact of the cessation of uterine pain, under the influence of chloroform, must not be forgotten, and that is the possibility of the occurrence of uterine hemorrhage in this state of things. All accoucheurs will admit that it may come on in these circumstances, and if it were to happen, during the cessation of the pain, the administrator of the chloroform would find he had more on his hands than he bargained for.

Of the effects of anesthetic agents upon the brain, we have much testimony, but can now refer to but a very small portion of it. M. Dubois says that in one of his

---

* Dr. Montgomery on Anesthetic agents.

patients, "the most intense premonitory signs of convulsion were induced; the congestion was so great that he almost expected the eyeballs to syringe forth blood." Dr. Tyler Smith says: "The morbid phenomena fairly attributable to ether, (a safer agent, be it remembered, than chloroform,) in cases which have recovered, have been nausea, sickness, stertorous breathing, pulmonary and cerebral congestion, convulsions, and protracted failure of the heart's action; a sad list, truly. These facts, and three deaths, at least, from the new agent, chloroform, besides many other serious results, will probably satisfy most practitioners that 'a meddlesome midwifery' is still a bad midwifery. In common with most teachers, I have long inculcated at Guy's Hospital, 'that unnecessary interference with the providentially arranged process of healthy labor is sure, sooner or later, to be followed by injurious and fatal consequences.'"

On the subject of the application of anesthetic agents in surgical operations, the clear-headed and admirable Professor Syme thus speaks: "In many operations it is of the utmost importance that the patient should retain a voluntary control over his movements, not only for assisting the operator by executing those that he may desire, but by abstaining from those which would be obstructive to the object in view. Thus I have known the little operation for fistula in ano not only impeded but prevented by the convulsive efforts induced through the use of ether. In all careful dissections, as those for hernia, and the removal of tumors from intricate connections of importance; I would, therefore, advise against inhalation. I lately disarticulated a clavicle from the sternum, for osteo-sarcoma, and dissected out some large deep-seated tumors of the neck, with results which, I believe, might not have proved so satisfactory if ether had been used. In operations affecting the nose and mouth, also, I should think it inexpedient to render the patient insen-

sible; lest, from the want of voluntary effort, suffocation, or an approach to it, might arise from the entrance of blood into the air passages. Finally, I beg to warn against administering the ether to persons in a state of great weakness or exhaustion."

We have thus endeavored to present the subject of anesthesia as it stands at present. The heated zealots who first mounted the hobby endeavored to browbeat all opposition to the general use of anesthetic agents, and their immoderate boasting of invariable success reminded us forcibly of the mummeries of mesmerism. Some of the early publications on the effects of ether and chloroform, and in considering anesthesia they must be looked upon as one thing, read and sound very much like Dr. Elliotson's trumpetings in favor of Mesmerism. But experience and observation have materially modified that indiscriminate use of anesthetic agents which threatened at one time to inundate the whole practice of surgery, medicine proper, and midwifery. Men have been taught that for mere oblivion of feeling, the peril of anesthetics is too great, and those who administer them should always find some apology in the peril of the patient, without them. A practitioner might be justified in using these agents in a case of labor requiring instruments, when he could not be for using them in a case of natural labor.—We do not universally condemn the practice of giving chloroform, for in the use of the forceps, or crotchet, or in a difficult case of turning, in midwifery, the cautious use of the medicine may be beneficial. No amount of caution is sufficient to guard against the evil effects of chloroform in all cases, but there is much less danger in a prudent and cautious exhibition of these agents, than in a rash and indiscreet use of them. And we regard the perilous character of anesthesia as a boon of no ordinary moment in midwifery, for if it were otherwise, there would be a large increase of that meddlesome interfer-

ence that could not fail to be baneful. If these anesthetic agents were innocent in their own results, they would be highly injurious in paving the way to an extended application of instruments in cases of labor, and that would be a serious evil. When Dr. Haighton, of London, was seventy years of age, he declared that he had delivered thirty thousand women, and amidst the multitudinous instances of deformed pelvis and depraved constitution to be found in the population of London, he said he had used instruments in but three cases, and he solemnly declared, that he believed his right arm should be taken off as the penalty for their use in at least two of these cases. "Experience," he said, "had satisfied him that if nature had been left to herself, she would have accomplished the labors without his assistance."

We rejoice to know that the use of anesthetic agents has been greatly modified, and that they are not now resorted to upon any and all occasions. The range of cases that demand their use has been materially diminished, and their application to that limited range, will lessen, rather than increase.

*Collodion.* The attention of the profession has been called to this new agent in surgery, and it is justly regarded as an important addition to the means of usefulness in the hands of the surgeon. It is one of the results of the increased attention of late to the uses of ether, and, as in the case of the solution of camphor in chloroform, shows that the progeny may improve upon the parent stock. As an excellent method of procuring adhesion between divided living parts, the solution of gun cotton in ether is a valuable discovery. Its use will grow upon the esteem of those who test its merits. As an adhesive article its value is very great. It is not influenced by heat or cold, or water, and it passes rapidly from a fluid state to a firm and persistent coating over a wound. In "cuts, burns, excoriations, and sore nipples," it has

been highly commended, but, if we may judge from experience, not more so than it deserves.

Dr. Erasmus Wilson bears strong testimony to the value of collodion in diseases of the skin. He says he has used "it with advantage in chronic erythema of the face; intertrigo; chapped nipples and chapped hands; herpes labialis, preputialis, and herpes zoster; lichen agrias; lupus non exedens, and exedens; acne vulgaris; and several affections of the sebiparous organs. We are able to corroborate Dr. Wilson's strong testimony to the value of collodion in various diseases of the skin. In a troublesome and obstinate case of erysipelas, in which nearly the whole round of ordinary treatment was tried, without any benefit to the patient, the collodion worked like a charm. All other applications seemed to be injurious, but the disease commenced improving soon after the collodion was used, and it is now so near well, that we have no fear but that it will be thoroughly cured.

In ulceration of the os and cervix uteri, Dr. Mitchell, of Dublin, says the collodion is the best application he has ever used. After the ulcerated surface has been thoroughly dried, by repeated applications of lint, the collodion is applied with a camel's hair pencil, through a speculum. Repeated coatings are to be made, until a firm and adhesive varnish is attached to the ulcerated surface. At the end of forty-eight hours the dressing is to be renewed. In simple abrasions, Dr. Mitchell says this is sufficient, but where large granulations are present, it is necessary first to resort to nitrate of silver, or acid nitrate of mercury; after which the collodion may be used with advantage.

In the application of collodion to chronic ulcers, Dr. Startin, of the London Cutaneous Infirmary, gives the following directions: "Dry the ulcer well with bibulous paper; wash over its surface with a large soft brush, wetted with ether; dry a second time with the paper; ap-

ply, with a brush, the collodion in a circular manner, so as to cover the edges of the ulcer to a greater or less extent, as may be deemed necessary, and varnish over so much of the ulcer itself as to leave *a small central opening* for the escape of the discharges." "This expedient," says Dr. Startin, "reduces a large sore into a small one, and does not prevent any stimulus judged favorable to cicatrization being applied in the dry form, before the varnishing process is commenced."

In order to give the collodion a tint resembling the skin, Dr. Startin recommends the addition, to the collodion, of an ethereal solution of turmeric or saffron, and of red saunder's wood, or alkanet root, so as to produce the required tint. And to render the collodion opaque, more elastic, and to remove its great contractility, Dr. S. recommends the addition of linseed, cocoa nut, pure cod-liver, or lard oil, previously dissolved in ether, in the proportion of from half to a drachm of oil, to the ounce of collodion. The best materials should be used.

Dr. Comstock, of Wrentham, U. S., has applied collodion to a case of extensive laceration of the perineum with a success that he thinks never attended any former method of treatment. He says: "The dressings remained firmly attached, and solid, during the process of healing, notwithstanding they were for a time almost constantly covered by urine, mucus, and subject to being displaced by the motions of the patient."

In a recent number of the "Journal de Pharmacie et Chimie," we find a paper by M. Ilisch, of St. Petersburg, on the use of a combination of collodion and cantharides, for the purposes of vesication. The important point in his paper, is his method of preparing the compound, and we submit it to the attention of our readers.

Preparation—Take one pound of cantharides coarsely pulverized, with one pound of sulphuric ether, and three ounces of acetic ether, and mix them together. In this

way we obtain a saturated solution of cantharides, and an animal matter of a green color. In two ounces of this liquid, dissolve twenty-five grains of the gun cotton.

This preparation may be kept without alteration in a close phial, and offers an excellent method of vesicating any part of the surface. The blistering agent cannot slip about, and vesicate parts that do not need it. And from a drachm and a half of this preparation we obtain as much effect as we could from half an ounce of the ordinary blistering ointment.

M. Livonius, of Neustrelitz, in the same Journal, gives a report of a series of experiments in making a collodion of remarkable adhesive power. He says that in making this improved collodion, he takes 200 parts of dry nitre, which he pulverizes finely, and 300 parts of strong sulphuric acid. The two substances are mixed in a porcelain mortar, and stirred with a glass tube. While stirring, add, as quickly as possible, 10 parts of pure cotton, very dry. After being in contact three minutes, during which it is continually stirred, the cotton is washed in distilled water, pressed and dried at a low temperature. But this does not make a complete solution, and M. Livonius says, that by observing the same proportions as above, mixing the dry nitre with English sulphuric acid, and leaving them in contact a space of five minutes, and then continuing the former operations, he obtained an article which dissolved with facility in sulphuric ether, and which makes a collodion of remarkable adhesive power. 5 grains of the cotton thus prepared, agitated in 110 grains of sulphuric ether, with the addition of 20 grains of alcohol, make a complete and transparent solution of the consistence of gum mucilage.

We cordially commend the collodion as a valuable and useful remedy in many cases, and as an important aid to other remedies, in various affections. Its application to its various uses, cannot fail to strike the attention of the intelligent practitioner.

# REVIEWS.

ART. II.—*On the Treatment of Aneurism.* By BENJ. W. DUDLEY, M. D., etc., Professor of Surgery in Transylvania University. Translylvania Medical Journal. Vol. 1, No. 1. 1849.

Our readers have been made acquainted with the fact that another competitor for the favor of the medical public has made its appearance in the form of a bi-monthly, bearing the title of "Transylvania Medical Journal, edited by Prof. E. L. Dudley, under the supervision of the Transylvania Faculty of Medicine. This enterprise was announced in one of the Lexington papers sometime since and attracted our attention at the time. We have ever thought that Transylvania was in duty bound to sustain a medical periodical, which might serve as an exponent of the peculiar doctrines which, for so many years we have been informed are taught in that Mother of Western Medical Schools, and we have been at a loss whether to attribute the absence of such an exponent to poverty, parsimony, indolence or the lack of suitable materials on the part of those most interested in the prosperity of the Medical Department of Transylvania. But a variety of causes have conspired to depurate in a measure the old institution, and an infusion of young blood into the veins of her staunch old frame has been effected which, we think, will prove salutary—in the course of time.

The bi-monthly is one of the good effects of their infusion—a positive good which the old stagers would not

undertake, or could not sustain, requiring, as it does for its successful execution, the energy, industry and genius of its projector and editor. A little more depuration and a little more infusion can do no hurt. We have so much confidence in the restorative influence of the remedy that, in this instance, we would hazard a little more purgation with the now enfeebled and tottering old patient, with the fullest assurance that if no good was done, no evil could result. When one has fallen to the foot of the hill he can tumble no lower.

However unfitted those, on whom time has left the deep impress of his heavy foot-fall, may be to receive, extend and enforce the important discoveries and improvements of modern times, they may yet be useful to us in imparting the light of other days—in detailing the conflicts of youth and portraying the victories of riper years. In this view all will be delighted to learn, as announced in the "Transylvania Medical Journal," that "a series of surgical essays will be commenced immediately, contributed to our pages by Prof. B. W. Dudley, which, when completed, will present a full record of his extensive experience, in that department of the profession."

This annunciation carries with it more weight from the fact that Prof. D. has long been regarded as the father of Western Surgery, and more especially because the profession at large have been taught to believe that his practice is distinguished alike by originality, simplicity, and extraordinary success. The desire, so long entertained, to have his views in a permanent form is about to be gratified; and as many of our readers may not meet with the journal in which they are to appear, we have thought that a brief synopsis of the essays, as they are published, might not be unacceptable. We have, therefore, concluded to furnish such a synopsis of the first of the series which has already appeared, and should it prove acceptable, and the duties of an active practice

permit, we shall follow the Professor in the same manner until the whole is completed. The merits of the distinguished Professor as an original thinker, a well informed teacher, and successful practitioner we will seek to place on as high grounds as truth shall permit; and while we endeavor to separate the true from the false—the old from the new—and sophistry from reason, we shall strive to do no injustice to the venerable writer and to permit none to be perpetrated on others.

The title of the first paper of the series stands at the head of this article and will at once arrest the attention of the reader, as embracing a subject worthy the most serious consideration of the practical surgeon.

The learned professor falls into the common error of attributing to Mr. Hunter the honor of first suggesting the best and most successful mode of treating aneurism, which consists in the application of "a single ligature placed upon the artery at a remote point above the aneurism." This mode of treatment was proposed, and successfully practiced, two hundred years before it was adopted and taught by Hunter, as any one must be convinced by the perusal of the following extract from the writings of Ambroise Paré.

"Partant le conseille au jeune Chirurgien qu' il se garde d'ouvrir les aneurismes, si elles ne sont fort petites et en parties non dangereuse: coupant le cuir au dessus, le separant de l' artere, puis on possera une aiguille â seton, enfiléé d'un fort fil, par sous l' artere aux deux costés de la playe, et sera ladite artere liée, puis coupée, et la playe traitée, laissant tomber le filet de say-mesme: et se fasant nature engendre chair, qui sera cause de boucher l' artere."*

No one can doubt that this passage, the production of the 16th century, clearly points to the so called Hunterian

* Oeuvres completes D'Ambroise Paré. Tom. 1, p. 372.

operation for aneurism; nor can the restitution of this honor to its legitimate owner detract from Mr. Hunter, whose fame rests too securely upon numerous, real, and valuable discoveries and improvements to need the support of that which belongs to others.

In the fall of 1814, Prof. D. "was applied to for assistance in a case of brachial aneurism, consequent to a wound received during the previous winter. * * * * Inasmuch as the parents of the youth were opposed to any surgical operation in the case, it was agreed to apply the common roller from the fingers to the shoulder, including thick compresses upon the aneurism, and upon the artery as high as the axilla." A cure was effected at the end of two months. "The satisfactory results from the treatment of this case, inclined me (Prof. D.) to the use of the same means in all aneurismal affections of the arteries upon the extremities, and for ten years in succession the results were equally successful and gratifying."

The manner of stating this case renders it apparent, that the Professor designs to make the impression that the treatment of aneurism, by compression, is original with him, and an accidental discovery. The Doctor is doubtless sincere and honest in this opinion, but a more familiar acquaintance with his illustrious predecessors would have taught him otherwise.

Guattani reports three cases of cure of popliteal aneurism by compression. His method consisted in covering the tumor with charpie, applying over this thick compresses, and one covering the track of the artery above the tumor. Over all he adjusted a bandage, making regular and moderate pressure; extending from the inferior part of the tumor to the superior portion of the limb.

In this method there was one serious inconvenience—the edematous engorgement of that portion of the limb below the bandage. To obviate this accident Genga, Freer, Scarpa, etc., proposed to apply the roller to the

whole limb, beginning at the extremities of the fingers or toes, retaining the compresses upon the tumor and along the course of the diseased artery.

Here then is Professor D's treatment of aneurism in full, and these facts are alluded to by almost all modern writers on surgery; but yet they seem to have wholly escaped his notice.*

The Professor alludes to a number of cases treated by him after this method, but none of them are accompanied by a satisfactory detail of particulars, such as is calculated to fix the rules that are to govern in selecting the bandage in preference to the knife and ligature.

The influence of general medication over aneurisms is illustrated by cases and the inference deduced that constitutional treatment (diet, emetics, cathartics, etc.) acts in virtue of the control that is thus exerted over "local inflammation."

The Professor thinks he has rescued a "threatened victim" from aneurism of the left subclavian, by constitutional treatment; but the details of the case are so extremely meagre as utterly to preclude any judgment concerning the correctness of the diagnosis.

The following is a very extraordinary and interesting case, the successful management of which reflects honor on the operator.

"The patient, a laborious mechanic, had been an occasional and intense sufferer in his head for five or six years, for which much had been done in the way of local applications and internal remedies. Upon examination, the right eye was found to be remarkably protruded from the socket, with pulsations which could not fail to arrest the

* See Dict. de Med., vol. 2, p. 283. First Lines of the Practice of Surgery, by S. Cooper, vol. 1, p. 306. Dorsey's Surgery, 1813, vol. 2, p. 177. System of Surgery, by B. Bell, 1806, p. 109. Maladies Chirurgicales, par. M Boyer, tom. 2, p. 244. Nélaton, tom. 1, p. 457.

notice of the observing surgeon at some distance from the patient. The transverse suture at the outer corner of the eye was opened sufficiently to admit the end of the finger. A large portion of the os frontis, os temporis, and temporal plate of the sphenoid bone, and a part of the parietal bone were disjointed and elevated some lines above the proper level of an aneurismal affection of the internal carotid. The eye and ear of that side ceased to perform their functions." After the usual preparation the carotid was exposed and a ligature applied to it, "the patient immediately expressed himself as being relieved of a noise in his head which had been an attendant throughout the history of his malady."

"By the expiration of the second week from the operation, the tumor had receded so far that the disunited portions of the cranial bones had recovered their proper position. Before the conclusion of the month he left this place for St. Louis where he resumed, and is now engaged in prosecuting his occupation as a blacksmith."

The experience acquired in the constitutional management of aneurism led the Professor to the inference that the same method "would prove efficacious in the treatment of aneurismal affections of the heart." To establish the correctness of this conclusion several cases are given; but, unfortunately, they are not reported with such details as are necessary to satisfy the enquiring mind that there really existed an aneurismal affection of that organ; nor will this defect astonish any one when it is stated that Prof. Dudley does not recognise the value of auscultation and percussion in diagnosticating diseases of the heart.

The remainder of this, the first of Prof. Dudley's series, is occupied in the consideration of that favorite subject—the Bandage—a hobby which he has bestrode so long and eulogised so extravagantly, that one would think he was the first of mortals to discover its virtues, and, even to

this day, the only one to appreciate its wonderful merits. In the present paper it is discussed as a great means of arresting hemorrhage; but we observe nothing valuable to note which may not be found in almost every surgical work from the earliest times to the present day. It would seem to be self-evident that, even prior to the date of the most ancient medical records, accident, and the instinct of self-preservation alone, must have taught the rudest savage the effect of pressure in arresting hemorrhage from divided vessels; yet whenever Prof. D. takes up this subject a tyro would imagine that compression was a novel remedy, and wonder at the imbecility of the old Masters who so unaccountably failed to discover and appreciate its magical properties. Indeed, not a few gentlemen have in times past gathered the honors of old Transylvania, and gone home in the full confidence that they had there learned the applicability of the bandage to the treatment of disease, which would ensure them a vast superiority over the graduates of any other institution. And yet, in every essential particular, it has been in as free use for ages as at the present day.

The Professor proceeds to inform his readers with due gravity, that "efficient compression, by means of bandage, so as to maintain immovably fixed the opposing sides of the vessels which have been divided in an operation, is a state of the parts in a wound incompatible with the loss of blood." This is doubtless a truism which no one can gainsay; for it must be evident that if the compression be sufficient to arrest the flow of blood the hemorrhage must cease.

Another principle, embraced in the following remarkable paragraph, does not appear to be quite so apparent—it may at least admit of question.

"Why ineffectual pressure will invite a hemorrhage, which subsides upon its removal, is not an appropriate subject for rational enquiry. As an elementary truth, it

claims a place among others of like character from which flow those principles upon which all rational practice is founded."

This is the philosophy of the darkest ages of all science—not less repulsive than that which forbade Galileo to investigate the laws of motion that rule the planets; it is the spectacle of a philosophical teacher calling the attention of his pupils to a great practical phenomenon, but interdicting any inquiry into its cause. We may, at least be permitted to inquire why it "is not an appropriate subject for rational inquiry?" Whether it is invested with a character so holy as to render the inquiry sacrilegious? If after diligent inquiry, the "why" still eluded the search, would any harm result, and if discovered is it not extremely likely that some practical benefit would accrue to suffering humanity? The principle is ranked among "elementary truths;" but is no effort to be made to resolve it into more simple elements? Earth, air, fire and water were once elements with philosophers, and doubtless some of them would have denounced, as a visionary fanatic, any one who would have been rash enough to avow the purpose of seeking to analyse them. In every age of science there have been those who were strenuous in setting bounds to human thought and "rational inquiry." They are not wanting even at this enlightened day with all the wonders of modern discovery and invention staring them full in the face.

This school of philosophers have always proved hurtful to science, ever retarding its march and degrading its dignity. They content themselves with grasping the elements furnished by experience, forgetting that universal principle, constituting the very foundation of the Baconian philosophy, that every phenomenon has a cause. We know of no facts, either physiological or pathological, which "are not appropriate subjects for rational inquiry;" indeed, in any science no speculation, even, in re-

gard to facts not perfectly comprehended, can be so absurd as not to be worthy of consideration. "The most remote and fanciful explanations of facts have often been found the true ones; and opinions which have in one century been the objects of ridicule, have in the next been admitted among the elements of our knowledge." Hence those who have penetrated farthest are least disposed to limit the researches of others. No one can behold the splendid achievements of alchemical and astrological researches without a feeling of repugnance to every effort to shackle the human mind in "rational inquiry."

Satisfy us, then, as to the fact that "inefficient pressure" *does invite* or increase hemorrhage, and we will not hesitate a moment to proceed to investigate its rationale; nor can we well conceive of a more appropriate subject for "rational inquiry." This dictum has been taught by Prof. Dudley for many years. *Is it true?* Does inefficient pressure invite hemorrhage? Or has the Professor only more fully established his claims to be ranked among the philosophers to whom we have alluded, and who are prone to award to error the devotion due only to truth, who begin by avowing a false principle, and end by restricting investigation?

We readily grant, as a truism, that if the compression be not sufficient to arrest the hemorrhage blood will continue to be lost. But does a certain degree of pressure, short of that which may be necessary altogether to arrest the hemorrhage, increase the quantity lost within a given time? We believe not. The principle, we feel convinced, has no foundation in fact. If Prof. Dudley should succeed in establishing its truth, he will have proved, that a reduction of the caliber of a tube will facilitate the passage of a fluid flowing from its orifice. Let any one place his finger upon a bleeding vessel and he will perceive that the hemorrhage therefrom is arrested in a direct ratio to the increase of pressure, and the consequent

diminution of the caliber of the divided vessel. The truth is, ineffectual compression in cases of hemorrhage is objectionable, not because it increases an evil, but simply because it is ineffectual and consequently does not altogether abate it.

This first paper of the eminent Professor is extremely imperfect; it was evidently written without care as to matter, manner, or style, and is altogether unworthy of the fame of which he has been heretofore thought the deserving object. The paper abounds in generalities without system, and in practical deductions not warranted by the data given. The rigid and exacting character of our science demands something more than loose assertion unsupported by evidence. In our opinion, an author who pretends to publish a novel mode of treating disease is bound to furnish, in illustration of it, sufficient details to enable his readers to determine whether he was as correct in his diagnosis as he appears to be successful in his treatment. In this respect the paper before us is eminently defective. To give but a single example—the cases reported as "Diseases of the Heart," are not accompanied by the enumeration of a single symptom, by not the slightest proof that they were what they seemed to be; and yet every tyro in medicine can appreciate the necessity of such evidence in cases where sympathetic affections are so likely to be mistaken for organic lesions. It is possible they were of the nature of an aneurism; it is extremely probable that they were of a different character.

Respecting the style in which this paper is written, we will barely remark that it is often obscure, always inelegant, and generally incorrect. As to the latter defects they might be passed by, but we cannot perceive any good reason why the meaning of the author should not be expressed in intelligible language. We sincerely hope

that the papers which are to follow may be written with more care, and approve themselves more worthy of commendation. C.

---

Art. III.—*Manual of Physiology.* By W. Senhouse Kirkes, M. D. Assisted by James Paget, Lecturer on General Anatomy and Physiology, at St. Bartholomew's Hospital, with 118 illustrations on wood. Philadelphia: Lea & Blanchard. 12mo. pp. 548. 1849.

In our last number, we presented the views of our authors respecting the functions of Respiration and Animal Heat. The next subject discussed in their interesting work is Digestion, their account of which is full and satisfactory.

Digestion, by some physiologists, is held to be a purely *vital* process, with which chemical laws have nothing to do, and which chemistry can neither imitate nor explain. Others, on the contrary, regard its phenomena as belonging to the category for which chemistry alone is able to account. They look upon digestion as a process of *catalysis*, or of fermentation, in which, by simple contact, or, at most, by contact with matter in a state of change, the food is broken down in its constitution, dissolved, converted into chyme, and fitted to enter the circulation for the nourishment of the system. There is reason to believe that both these extreme parties are in error, and that in this question, as in so many similar cases, we are safer on middle ground. The facts thus far brought to light do not warrant us in assuming that digestion is foreign in all its stages from operations which we refer to chemical affinity, much less that it is in antagonism with those forces. The opinion that the vital principle, as exerted in digestion, is at war with chemical affinity, has no foundation in nature. But, at the same time, since digestion is accomplished within living beings,

and by the agency of a fluid secreted by the stomach, we do not see how the conclusion can be resisted that the process is a vital one—a process of *vital chemistry.*

Thus, it takes place out of the living body; it goes on after life becomes extinct, as when the stomach has been found digested in instances of sudden death; it may be performed by an artificial digestive fluid, and therefore is not wholly vital. But the fluid by which it is effected out of the stomach, by which the stomach itself is dissolved after death, is a fluid formed under the influence of the vital principle; and the artificial digestive fluid must have a product of that principle in order to fulfil the object. Such a fluid is made by macerating in water portions of the mucous membrane of the stomach of a pig or of some other animal, to which a few drops of hydrochloric acid have been added. Without the animal secretion it is inefficient. The process may be imitated, but the agency of life seems as indispensable out of the living body as within it. When once the gastric fluid is secreted, digestion may be regarded as independent of life, and therefore, in the language of Dr. Kirkes, "as essentially a chemical process"; but up to this period all depends upon vitality, and hence in this stage it must be held a vital process. The forces by which it is accomplished are so mixed up that it is impossible to say where the influence of one ceases and the others begin to operate.

The digestive power of the gastric fluid taken from the stomach and kept at a temperature of 100°, is seen in its softening and partially or completely converting into chyme the various articles of food subjected to its action. But this is only done when pepsine and the acid of the stomach both are present. By neither can it be performed alone, and, when mixed, if the pepsine be decomposed or the acid neutralized, the digestive property of the fluid is rendered null. The rationale of the process, as at-

tempted to be given by Dr. K., in the following extract is, perhaps, as near the truth as any that can be offered in the present state of our knowledge on the subject.

The nature of the action by which the mucous membrane of the stomach, and its secretion, work these changes in organic matter, is exceedingly obscure. The action of the pepsine may be compared with that of a ferment, which, at the same time that it undergoes change itself, induces certain changes also in the organic matters with which it is in contact. Or its mode of action may belong to that class of chemical processes termed "catalytic," in which a substance excites, by its mere presence, and without itself undergoing change as ordinary ferments do, some chemical action in the substances with which it is in contact. So, for example, spongy platinum placed in a mixture, however voluminous, of oxygen and hydrogen, makes them combine to form water; and diastase makes the starch in grains undergo transformation, and sugar is produced. And that pepsine acts in some such manner appears probable from the very minute quantity capable of exerting the peculiar digestive action on a large quantity of food, and apparently with little diminution in its active power. The process differs from ordinary fermentation in being unattended with the formation of carbonic acid, in not requiring the presence of oxygen, and in being unaccompanied by the production of new quantities of the active principle, or ferment. It agrees with the processes of both fermentation and organic catalysis in that whatever alters the composition of the pepsine (such as heat above 110°, strong alcohol, or strong acids), destroys the digestive power of the fluid.

Alimentary substances are divided into two classes—the *nutritive*, or nitrogenized, and the *respiratory*, or non-nitrogenous. Matters destitute of nitrogen are incapable of taking any part in the formation and repair of the animal tissues. Food is also divided into classes having reference to its origin; but in animal and vegetable substances the nutritive principles are the same. It is the same fibrine, albumen, and caseine that go to build up the

frame and repair its waste, whether the articles of food be derived from the animal or vegetable kingdom. The food of the carnivora is identical in composition with their own tissues, and consequently little more seems requisite to their nutrition than that it should be dissolved and conveyed into the blood in a condition capable of being reorganized. The food of the herbivora seems widely different, but essentially the parts for which they consume it are identical with the muscular flesh which forms the aliment of carnivorous animals. The process of digestion with them is more tedious, requiring more complicated apparatus, but in the last analysis it consists, as in the carnivora, in the solution and assimilation of the albumen or its cognate elements.

While plants are nourished by water, carbonic acid, and ammonia, it is only upon organic substances that animals can subsist; and as with the three compounds just mentioned other mineral matters must be furnished to plants to perfect their development, so even organic compounds are not sufficient for the nutrition of animals unless they are supplied in their natural state. Animals, as well as vegetables, require earthy materials in their aliment. Men are attacked with scurvy if they are too long deprived of vegetable food; and it is necessary to have the vegetables either raw, or so cooked as not to remove from them their saline constituents. The plastic elements, fibrine, albumen, and caseine are, therefore, not sufficient, in themselves, and can only support life for a brief period.

Moreover, health cannot be maintained by any number of substances derived exclusively from one of the three groups of alimentary principles. A mixture of nitrogenous and non-nitrogenous substances, together with the inorganic principles which are severally contained in them, is essential to the well-being, and, generally, even to the existence of an animal. The truth of this is de-

monstrated by experiments performed for the purpose, and is illustrated by the composition of the food prepared by nature as the exclusive source of nourishment to the young of mammalia, namely milk. In milk, the albuminous group of aliments is represented by the caseine, the oleaginous by the butter, the aqueous by the water, the saccharine by the sugar of milk. Milk, likewise, contains phosphate of lime, alkaline and other salts, and a trace of iron: so that it may be briefly said to include all the substances which the tissues of the growing animal need for their nutrition, and which are required for the production of animal heat. The yelk and albumen of eggs are in the same relation, as food for the embryos of oviparous animals, as milk is to the young of mammalia, and afford another example of mixed food being provided as the most perfect for nutrition.

Magendie has performed numerous experiments illustrating this principle. He fed dogs exclusively on sugar and distilled water; and although for a week or more they were active and took their food as usual, in the course of the second week they began to lose flesh, and in spite of a good appetite became more and more emaciated, and finally died from the thirty-first to the thirty-fourth day. On dissection their bodies exhibited all the signs of death from starvation.

Besides the comminution of the food, which is effected in the mouth, other changes take place in that cavity.—The saliva exerts a chemical action upon some of the elements of food, converting starch into dextrine and grape sugar. This would seem to be one of the objects of insalivation, for the gastric juice tends rather to retard than to favor the transformation of the starch. From experiments performed by Magendie and Bernard, it appears that many substances besides saliva may induce these changes in starch, such as pieces of any of the mucous membranes; so that the property cannot be assigned to any peculiar organic principle in this secretion. Nor in-

deed is any such property required in the saliva of carnivorous animals, since their food is destitute of farinaceous substances. It is not known that saliva exerts any kind of digestive power over animal matters, and we are therefore uncertain whether it subserves any other purpose in the carnivora than that of lubricating their food.

Swallowing is in part an involuntary act. We carry back the morsel of food to a particular point by muscles which are under the control of the will; but when it has reached a certain part of the tongue's surface, muscular contraction takes place without our being able to prevent it.

When we appear to swallow voluntarily, we only convey, through the first act of deglutition, a portion of food or saliva beyond the anterior arch of the palate; thus, the substance acts as a stimulus which in accordance with the laws of reflex movements hereafter to be described, is carried by the sensitive nerves to the medulla oblongata, where it is reflected to the motor nerves, and an involuntary adapted action of the muscles of the palate and pharynx ensues. The third act of deglutition takes place in the esophagus, the muscular fibres of which are entirely beyond the influence of the will.

The mechanism of deglutition is exceedingly beautiful. There are two passages besides the right one, into which the food might make its way, and induce distressing and even fatal consequences. It must pass in its course to the esophagus by the posterior orifice of the nose, and over the rima glottidis of the larynx, without touching them; and so exquisitely have the motions been adjusted that it rarely errs from the right course. As the morsel is carried backwards by the tongue, the larynx is raised and carried forwards under the tongue, and the rima glottidis is closed by the epiglottis; but even where the latter is destroyed, the closure of the glottis is secured by

the simultaneous contraction of its own muscles. "At the same time, the approximation of the sides of the posterior palatine arch, which move quickly inwards like side-curtains, closes the passage into the upper part of the pharynx and the posterior nares, and forms an inclined plane, along the under surface of which the morsel descends; when the pharynx, raised up to receive it, in its turn contracts, and forces it onwards into the esophagus." Its passage through the esophagus is wholly independent of the will, the successive contractions of the tube resulting from the contact of the food with its different parts as it descends.

The gastric juice is described by nearly every experimenter as acid in its character, but the different writers are very far from being agreed as to the nature of the acid upon which digestion depends. Dr. Dunglison found in the stomach of St. Martin both acetic and hydrochloric acids; and Dr. Prout has satisfied himself of the existence of the latter acid in the gastric fluid of the rabbit, horse, calf, hare, and dog. But doubts have been created by the more recent experiments of Blondlot, Thompson, Lehmann, Bernard, and Barreswill, as to the existence of free hydrochloric, or indeed any other volatile, acid in the fluid of the healthy stomach. Dr. Kirkes relates that—

Having obtained large quantities of pure gastric fluid from the stomach of a dog, and carefully distilled portions of it on the sand bath, Blondlot found not the slightest trace of acidity in the product of the distillation; but the residue in the retort was intensely acid, and became more so the more it was concentrated by continuing the distillation. The non-existence of both hydrochloric and acetic acids seeming to be thus demonstrated, Blondlot was led to believe the acidity of the gastric fluid depends on an acid phosphate of lime. For he observed no effervescence on the addition of carbonate of lime to the acid gastric fluid; neither when carbonate of lime was placed

in the gastric fluid, was the fluid neutralized, or the carbonate dissolved. By further investigation he demonstrated the existence of a super-phosphate of lime in the gastric fluid. But he seems to have been in error in attributing the whole of the acidity of the gastric fluid to this salt: for MM. Bernard and Barreswill have found that if the gastric fluid be sufficiently concentrated by evaporation, distinct effervescence occurs on the addition of carbonate of lime; proving beyond doubt the presence of some free acid, which they as well as Dr. R. D. Thompson and Lehmann, consider to be the lactic, an opinion to which Liebig also gives his sanction. MM. Melsens and Dumas have also proved the existence of a free acid by the gradual solution of portions of carbonate of lime placed in gastric fluid. But since, even after long contact, the carbonate of lime does not completely neutralize the acid of the gastric fluid, it is most probable that there is, together with a free acid, some acid phosphate of lime, as maintained by M. Blondlot.

Dr. Kirkes suggests, as an explanation of these discrepancies of various observers, "that the source of the acidity of the gastric fluid may vary in different animals, or at different times in the same animal;" and that hydrochloric acid may have been found in the human stomach by Dunglison and Prout, while lactic acid was found in the stomach of the pig and of the dog, by other experimentalists. The conclusion from the whole seems to be, as expressed by him, "that the digestive properties of the gastric fluid require only the existence of a certain degree of acidity, which is equally effective whatever be the acid employed, provided this acid does not decompose the active animal principle of the digestive fluid."

The change effected in the alimentary principles by the gastric secretion, whatever be the mode of it, is essential to their assimilation, as is shown by the late experiments of Bernard and Barreswill, who always found albumen in the urine a few hours after they had injected it, dissolved in water, into the jugular veins of dogs, but did not de-

tect it if, previous to injection, it was mixed with the gastric fluid.

The various elements of food are variously affected by the fluids of the stomach.

The *saccharine*, including the *amylaceous* principles are at first, probably, only mechanically separated from the vegetable substances within which they are contained, by the action of the gastric fluid. The soluble portions, viz: sugar, gum, and pectine are probably at once absorbed. The insoluble ones, viz: starch and lignine (or some parts of it) are rendered soluble and capable of absorption, by being converted into dextrine and grape-sugar. It is probable that this change is carried on to some extent in the stomach; for many experiments, including those of Dr. Percy, show that starch is absorbed from the stomach, being, of course, previously rendered soluble. But the change is continued in the intestinal canal, perhaps, as will be shown, under the influence of the secretion of the pancreas. And, further, respecting the action of the stomach in the digestion of starch, it may be doubted whether the human stomach has any power over it in the raw state; for both by man and carnivora, when starch has been taken raw, as in corn and rice, large quantities of the granules are passed unaltered with the excrements. Cooking, by expanding or bursting the envelopes of the granules, renders their interior more amenable to the action of the digestive organs; and the abundant nutriment furnished by bread, and the large proportion that is absorbed of the weight of it consumed, afford proof of the completeness of their power to make its starch soluble and prepare it for absorption.

The agency by which the *oleaginous* principles are prepared for admission into the economy was not understood when this work was written; but a conjecture as to its nature was thrown out by Dr. Kirkes, the truth of which more recent researches have established. Speaking of the part performed by the *pancreas* in digestion, he says:

Perhaps it may assist in the digestion of fat, or in rendering it fit for absorption; for numerous cases are recorded in which, the pancreatic duct being obstructed so that the secretion could not be discharged, fatty or oily matter was abundantly discharged from the intestines. In nearly all these cases, indeed, the liver was coincidently diseased, and the change or absence of the bile might appear to contribute to the result: but in at least one the liver was healthy, and there appeared nothing but the absence of the pancreatic fluid from the intestines to which the excretion or non-absorption of fatty matter could be ascribed.

The reader does not need to be told that since the publication of this volume, **M. Bernard** has shown, by a series of most satisfactory experiments, that the function of the pancreas is precisely the one attributed to it by **Dr. Kirkes.** Dr. K., by an ingenious method of reasoning, had arrived at the true conclusion, which only wanted for its confirmation the simple experiments since performed by **M. Bernard.**

The sensation which induces to the taking of food, or ***hunger***, is referred by the mind, and has generally been referred by physiologists, to the stomach; but there is good reason to believe that it does not entirely depend upon the state of that organ. For it has been found to be allayed by the introduction of food not only into the stomach, but into the blood through other channels; and it has been further ascertained that the division of both pneumogastric nerves, by which chiefly the mind is cognizant of the condition of the stomach, does not appease the cravings of hunger. Still the stomach has a share in this sensation, for the introduction into it of non-alimentary substances suspends the appetite for a time. And we may, therefore, conclude that the feeling of hunger depends upon the condition of the general system, but more especially upon the stomach, the nerves of which, we may suppose, are more affected by the state of the insuf-

ficiently replenished blood than those of other organs are.

In like manner, the *sensation of thirst* is referred to the fauces, although, as in hunger, "this is merely the local declaration of a general condition existing in the system." The truth of this position is proved by the fact that washing the dry fauces with liquids affords only temporary relief, while thirst is effectually allayed by water introduced into the circulation either through the stomach, the skin, the intestines, or directly by injection into the bloodvessels.

The sensation of thirst is perceived most naturally whenever there is a disproportionately small quantity of water in the blood; as well, therefore, when water has been abstracted from the blood, as when saline, or any solid matters have been abundantly added to it. We can express the fact (even if it be not an explanation of it,) by saying that the nerves of the mouth and fauces, through which the sense of thirst is chiefly derived, are more sensitive to this condition of the blood than other nerves are. And the cases of hunger and thirst are not the only ones in which the mind derives, from certain organs, a peculiar predominant sensation of some condition affecting the whole body. Thus, the sensation of the "necessity of breathing," is referred especially to the lungs; but, as Volkmann's experiments show, it depends on the condition of the blood which circulates everywhere, and is felt even after the lungs of animals are removed; for they continue, even then, to gasp and manifest the sensation of want of breath. So, perhaps, it may be added, the disordered blood of fever, and other affections of the blood, circulates everywhere, but produces peculiar sensations in only certain parts. And, as with respiration, when the lungs are removed, the mind may still feel the body's want of breath, so in hunger and thirst, even when the stomach has been filled with innutritious substances, or the pneumogastric nerves have been divided, and the mouth and fauces have been kept moist, the mind is still aware, by the more obscure sensations in other parts, of the whole body's need of food and water.

The influence of the nervous system upon digestion is forcibly shown by the effect of passion in arresting the process. It is well known that it may be completely suspended by a fit of anger, and nothing is better understood than the tendency of the depressing passions to induce indigestion. A paroxysm of rage just after a hearty meal has been known to lead to convulsions, and the food ejected from the stomach by vomiting twelve hours after it was taken, was found unchanged. The division of the pneumogastric nerves produces the same effect, as has been shown by M. Bernard, who watched the act of digestion in dogs through fistulous openings in their stomachs. On the instant of severing the nerves digestion appeared to cease, and the mucous membrane of the stomach, which before was turgid with blood, became pale and no longer secreted the gastric juice. It is proper to remark, however, that while in other experiments, as in those of M. Bernard, the division of the pneumogastric nerves always temporarily puts a stop to digestion and often caused death from inanition, still the stomach finally regained its function after the operation, and the processes of digestion and nutrition went on as well as before it was performed.

It has been asserted that the section of these nerves prevents the absorption of poisons by the stomach; but in the experiments performed by Wernscheidt under the direction of Müller, no difference was observed in the action of narcotic poisons whether the nerves had been divided or not. An interesting exception, however, is presented in certain cases; for, as remarked by Dr. Kirkes,

It appears that such poisons as are capable of being rendered inert by the action of the gastric fluid, may, if taken into the stomach shortly after division of both pneumogastric nerves, produce their poisonous effects, in consequence, apparently, of the temporary suspension of the secretion of gastric fluid. Thus, in one of his exper-

iments, M. Bernard gave to each of two dogs, in one of which he had divided the pneumogastric nerves, a dose of emulsine, and half an hour afterwards a dose of amygdaline, substances which are innocent alone, but when mixed produce hydrocyanic acid. The dog, whose nerves were cut, died in a quarter of an hour, the substances being absorbed unaltered and mixing in the blood; in the other, the emulsine was decomposed by the gastric fluid before the amygdaline was administered; therefore hydrocyanic acid was not formed in the blood, and the dog survived.

In the intestines other important changes are effected in the food. The pancreas pours its secretion into the duodenum to make an emulsion of the fatty particles; and in some animals, as the solidungula, rodentia, and ruminantia, the cecum is greatly extended, apparently for the purpose of perfecting the digestive process commenced in the stomach. Even in animals of the same species the length of the large intestines is found to vary with the food, the ostrich inhabiting regions which abound in vegetation, and the ostrich of the desert conforming, in this respect, to the carnivora on the one hand, and to the herbivora on the other. The cecum is said to be absent in those classes of animals which hybernate, but the relation of this bowel to that peculiar faculty is not understood.

The liver is intimately associated with the stomach and intestines in the assimilative function, and there is much that is peculiar and interesting in its office and organization. The blood which the portal vein conveys to the liver contains portions of the soluble parts of the food.—This blood differs from the venous blood in other parts of the body in having a less specific gravity; in being darker and insusceptible of acquiring a red hue from the contact of salt, oxygen, or atmospheric air; it contains only about half the ordinary quantity of fibrine, which is in so imperfect a condition that when it coagulates the

clot forms slowly and is not so firm as in other blood; it also contains less albumen, but more red globules, and nearly twice the usual amount of fatty matter. These striking characteristics, which we simply quote from the work before us, refer to the composition of the portal blood itself, and not to the various extraneous substances which frequently mingle with it. According to Bouchardat and Sandras, when herbivorous animals have been fed on farinaceous substances the blood of the portal vein contains more dextrine and grape-sugar than that of any other bloodvessel. Trommer, when grape-sugar had been fed to animals, found that substance in their portal, but not in their hepatic, veins; and Blondlot and Chossat remarked that the administration of sugar and other non-nitrogenous articles of food, materially increases the quantity of bile secreted. And, as Dr. K. continues—

These things make it probable that the food, especially the saccharine and amylaceous principles, being absorbed from the intestines by the bloodvessels and conveyed through the branches of the portal vein in the liver, contributes, with the elements of the portal blood, to supply the materials out of which the bile is formed.

The purposes served by the secretion of bile are of two principal kinds, namely, *excrementitious* and *digestive*.

As an excrementitious substance, the bile is destined especially for the preparation of portions of carbon and hydrogen in order that they may be removed from the blood: and its adaptation to this purpose is well illustrated by the peculiarities attending its secretion and disposal in the fetus. During intra-uterine life, the lungs and the intestinal canal are almost inactive: there is no respiration of open air or digestion of food; these are unnecessary, because of the supply of well-elaborated nutriment received by the vessels of the fetus at the placenta. The liver, during the same time, is proportionably larger than

it is after birth, and the secretion of the bile is active, although there is no food in the intestinal canal upon wnich it can exercise any digestive property. At birth, the intestinal canal is full of thick bile, mixed with intestinal secretion; for the *meconium*, or feces of the fetus, is shown, by the analysis of Simon and of Frerich, to contain all the essential principles of bile. In the fetus, therefore, the main purpose of the secretion of bile must be the purification of the blood by *direct* excretion, *i. e.* by separation from the blood, and ejection from the body without furthur change. Probably, all the bile secreted in fetal life is incorporated in the meconium, and with it discharged; and thus the liver may be said to discharge a function in some sense vicarious of that of the lungs. For in the fetus, nearly all the blood coming from the placenta passes through the liver previous to its distribution to the several organs of the body; and the abstraction of carbon, hydrogen, and other elements of bile will purify it, as in extra-uterine life the separation of carbonic acid and water at the lungs does.

This evident disposal of the fetal bile by excretion makes it highly probable that the bile in extra-uterine life is also, at least for the most part, destined to be discharged as excrement. But the analysis of the feces of both children and adults shows that (except when rapidly discharged in purgation) they contain very little of the bile secreted, probably not more than one-sixteenth part of its weight, and that this portion includes only its coloring and some of its fatty matters, but none of its essential principle, the biline. All the biline is again absorbed from the intestines into the blood. But the elementary composition of biline shows such a preponderance of carbon and hydrogen that it cannot be appropriated to the nutrition of the tissues; therefore, it may be presumed that, after absorption, the carbon and hydrogen of the biline combining with oxygen are excreted in carbonic acid and water. The destination of the bile is, on this theory, essentially the same in both fetal and extra-uterine life; only, in the former, it is *directly* excreted, in the latter *indirectly*, being, before final ejection, modified in its absorption from the intestines and mingled with the blood.

The change from the direct to the indirect mode of excretion of the bile may, with much probability, be con-

nected with a purpose in relation to the development of heat. The temperature of the fetus is maintained by that of the parent, and needs no source of heat within the body of the fetus itself; but, in extra-uterine life, there is (as one may say) a waste of material for heat when any excretion is discharged unoxydised: the carbon and hydrogen of the biline, therefore, instead of being ejected in the feces, are re-absorbed, in order that they may be combined with oxygen, and that in the combination heat may be generated.

That ejection is the final destination of the bile, and that whatever other purposes it may serve are not essential to the maintenance of life, appear from facts mentioned by Blondlot. He found that dogs may live in health for at least several months even though the bile is prevented from passing into the intestines by removing a portion of the common bile-duct, provided all the bile that is secreted can be discharged from the body by keeping open a fistulous communication between the skin and the gall-bladder. It must not, however, be thought indifferent whether the bile be re-absorbed or not, provided it be ejected; for, in experiments similar to those of Blondlot, Schwann found that the animals always died with the signs of inanition; such signs, it may be supposed, as would be produced by the deficiency of carbon and hydrogen in the blood.

Here, for the want of space, we are compelled to close the present article. We shall have to crave the patience of our readers while we devote a few pages more to this work in a future number.

# SELECTIONS

FROM

# AMERICAN AND FOREIGN JOURNALS.

---

*Cases of Variola and Vaccine.* By George L. Upshur, M. D., of Norfolk, Va.—Small pox prevailed in this city to a considerable extent during the first three months of this year. In the house where I saw my first case, was a mother with an infant four months old, both unprotected by vaccination. I vaccinated them with some very active virus, and on the eighth day, when the vesicle was fully formed, I directed them both to be carried into the room where the patient with small pox was lying, then the eighth day from the appearance of the eruption. From that day, both mother and child were freely exposed to the infection, and both escaped without the slightest indisposition. The grandfather of the infant, who had been inoculated thirty years before, and had the variolous disease fully, as shown by marks upon his person, had varioloid severely, as did five of his children who had had varioloid some years before, not one in the family escaping the disease except the grandmother and the mother and child before mentioned. This would seem to prove that *fresh* vaccination is a better prophylactic than *old* small pox.

My second case of variola occurred in the person of a negro, who was seized with a chill on Sunday, and broke out on the following Wednesday. I saw her for the first time on Friday; the eruption was then just passing from the papular into the vesicular stage. Her child, three

years old, had been sleeping with her from the beginning of her sickness. I immediately vaccinated it upon the left arm in two places. Ten days after, and when the mother was convalescing, there was no trace of the punctures upon the child's arm. I vaccinated her again in the right arm. A week after this the child was seized with all the symptoms of small-pox. Upon examining the arms, I found that upon the *left* one were two vaccine vesicles. The case turned out to be one of very mild varioloid.

I saw another case, in the practice of Dr. Tunstall, which had been very freely exposed to the variolous infection, and in whose system the vaccine virus lingered for fourteen days without manifesting itself locally. It at length made its appearance simultaneously with the variolous disease, and seemed so to modify it as to make the case one of mild varioloid.

I treated all the cases I had under my care with a purgative, now and then, of calomel and rhubarb, and a solution of nitrate of potassa during the high febrile stage. The fact frequently mentioned in the books, particularly struck me, viz: that the initiatory symptoms of varioloid are fully as severe as those of confluent small pox.

Since the 15th of January, I have vaccinated 179 persons, of which 40 were *re*-vaccinations. Of these last, 34, or about 75 per cent., took the disease a second time. The susceptibility in some cases to the disease, a second and even a third time, is singular. In 1846 I vaccinated a little girl, with success—in '47 repeated the operation with the same result—in '48 vaccinated her again, and she again took the disease. Last spring, upon trying it again, no impression was produced even locally. She has a brother and a sister, who have each had the vaccine disease perfectly, twice. The scars from the last operation are just as distinct and characteristic as from the first.—*Med. Examiner, Oct.*, 1849.

---

*Reflex Nervous Action of the Uterus.* By W. Tyler Smith, M. D., London. The Reflex actions of the uterus are very numerous, and it is upon these, and the numerous extra-uterine reflex actions excited during the pro-

cess, that the natural performance of parturition essentially depends. Contraction of the uterus, from irritation of the mammæ, as in the act of suckling the child; contraction of this organ from the cold water douche, applied to the vulva or the abdominal surface; contraction excited by irritating the rectum, as by stimulating enemata; or of the stomach, by drinking a gulp of cold water; of the ovaria, by the presence of the menstrual nisus; of the vagina, by manual irritation, as in "taking a pain;" of the os uteri by irritation, as in the introduction of the hand into the uterus—are all to be considered as so many instances of reflex spinal action. Thus, in parturition, the uterus may be excited, in a reflex form, by irritation of the mammary incident excitor nerves; the pubic and abdominal branches of the intercostals; the rectal; the gastric division of the pneumogastric; the ovarian nerves; and also by the nerves of the vagina, and the os and cervix uteri.

Many of the different forms of abortion—particularly when the causes are extra uterine—strikingly illustrate the reflex action of the uterus. A series of cases of abortion would be one of the best expositions of reflex uterine action. Abortion may be caused by irritation of the mammæ, from the sucking of an infant, after milk had ceased to be secreted, as in cases in which the mother becomes pregnant during lactation; abortion may be excited, as a morbid reflex act, from irritation of the bladder, by a calculus; by irritation of the tri-facial nerve, as in cutting the dens sapienta; by the mechanical irritation of coitus; by plugging the vagina; by disease of the os and cervix uteri—malignant or simple induration, inflammation and ulceration; by the irritation of the placenta attached within the uterine mouth; by ovarian irritation in ovarian disease; by irritation of the rectum, as from ascarides, and the use of irritating purgatives or enemata; by puncturing the membranes, and evacuating the liquor amnii, so as to bring the head of the fetus to act as an excitant to the os uteri; by irritation of the inner surface of the uterus itself, in cases of blighted fetus, where the ovum acts as a foreign body; by riding on horseback, or any other violent exercise calculated, by succussion, to bring the head of the fetus into violent contact with the os uteri; and by other sources of irritation to incident

spinal nerves which might be enumerated. All these are so many instances of uterine reflex action, the distant parts of the economy being brought into connection with the uterus through the medium of the spinal marrow and its special incident excitor and reflex motor nerves.—These facts are of most extensive practical application in devising means for the prevention of abortion.

In cases of abortion in which the irritation is applied to the os or cervix uteri, or the internal surface of the organ, the immediate action depending on the irritability of the uterus itself is called forth, in connection with true reflex action; but in the instances in which a distal organ is irritated, there can be no doubt whatever of the purely reflex nature of the uterine action which ensues."

---

*On the Treatment of Pericarditis; especially on the Effects of Bloodletting and Mercury in that Disease.* By John Taylor, M. D., Fellow of the Royal College of Physicians in London, and Physician to the Huddersfield Infirmary.—In this communication the author has analysed the forty cases of pericarditis, published in the Lancet, in 1845 and 1846, in respect to the treatment of the disease. The cases are divided into two classes—first, those occurring in connection with acute rheumatism, the subjects of which were previously in good health; and secondly, the cases occurring in connection with renal disease, or in persons previously in a bad state of health.—The patients in the first class, besides being in good health, were younger, and suffered from much fewer complications than those in the second class. Very few of those in the first class died, whereas all died in the second class. The conclusion from these facts is, that the age and previous health of the patients, and the nature of the complicating diseases, have more influence upon the favorable or unfavorable termination of pericarditis than any differences in the treatment. The remedies whose effects are examined are chiefly bloodletting and mercury.

I. *Bloodletting.*—The conclusions arrived at are the following:

1. The duration of pericarditis increases in proportion as the time is longer between the commencement of the disease and the first bleeding.

2. The duration of the cases bled after the first four days is greater by one half than that of those bled within the first four days from the invasion of the disease.

3. The influence of bleeding was more marked in the cases in which it was copiously and repeatedly, as well as early, practised, than in those in which blood was drawn less frequently and more sparingly.

4. Pericarditis is never extinguished at once by bleeding, however early, or however copiously practised.

5. In several cases the pericarditis was suspended for a limited time. The suspension in every instance was immediately consequent upon the local abstraction of blood.

6. It is probable that renal has a longer duration than rheumatic pericarditis.

7. Bloodletting must be less copious, and is more frequently inadmissible, in renal, than in rheumatic pericarditis.

8. Bloodletting probably lessens the mortality, inasmuch as it lessens the duration of pericarditis; but direct proof of the reduction of mortality is not to be obtained from these cases.

9. The abstraction of blood by venesection, cupping, or leeches, almost invariably relieved the pain at once, but not permanently. There is no reason to believe that any one form of bleeding relieved pain more effectually than another.

10. Bloodletting never lessened the frequency of the pulse, except when there were signs of the inflammation having abated.

11. The tendency to syncope in some cases of pericarditis, renders it necessary to be very careful in abstracting blood by venesection.

12. Free venesection for pericarditis does not always prevent the subsequent appearance of serious inflammation in other internal organs.

II. Mercury.

1. The cases in which mercury was given within the first four days had an average duration less by five days than those in which it was given later.

2. The cases in which salivation was produced within the first four days had an average duration less by two days than those in which it occurred later.

3. It is difficult to determine how much of the benefit was due to the mercury, because all the patients who took mercury were likewise bled, and in almost every instance the two remedies were first employed on the same day.

4. The author is inclined to the conclusion, that the benefit was due in greater measure to the bleeding than to the mercury—partly because the duration of the disease was more abbreviated in those who simply began to take mercury than in those in whom salivaton was produced within the first four days. The administration of mercury coincided with the bleeding, but the salivation did not, and the results are just what might be looked for upon the supposition that the benefit was due to the bleeding, and not to the mercury.

5. If the production of salivation had anything like the marked influence in arresting inflammation, and in promoting the removal of its products, which it is currently belived to possess, the duration of the cases of pericarditis after salivation ought to have been much less than it really was. This is proved by a detail of the cases.

(*a.*) Salivation was not followed by any speedy abatement of pericarditis in sixteen cases.

(*b.*) Salivation was followed by pericarditis in five cases.

(*c.*) Salivation was followed by an increase in the extent and intensity of the pericarditis in three cases.

(*d.*) Friction-sound ceased two days before the mouth became sore in two cases.

(*e.*) Salivation was followed by a speedy diminution of the friction-sound in two cases: it did not cease, however, for some days after.

(*f.*) The pericarditis ceased soon after salivation in two cases: in one of them, however, it had been declining for some days before.

(*g.*) Mercury was given, but no salivation was produced in seven cases.

(*h.*) No mercury was given, nor other treatment adopted in eight cases.

(*i.*) Cases are detailed exhibiting the occurrence of various internal inflammations during the time that salivation was proceeding. The cases comprise examples of endocarditis, pleuropneumonia, pneumonia, pleuritis, erysipelas, and rheumatism.

A conclusion rather adverse to the antiphlogistic power of mercury having been drawn from the facts narrated, the author next examines the evidence upon which the contrary and more prevalent opinion is based, and infers that the evidence is not satisfactory. In the course of this examination, some remarks are offered upon the necessity for the application of the "numerical method" in therapeutical inquiries, and, also, upon the difference, and its results, between the practice of French and English physicians, in inflammation of serous membranes.—*Lon. Med. Gaz.*

---

*Anesthesia from the Local Application of Chloroform.*—Mr. Higgenson brought forward the case of a lady, aged 25 years, in labor with her first child: the perineum had long been on the stretch by the head, which was tumefied by the pressure; the pain was great with each uterine contraction, but was referred entirely to the perineum, no pain being apparently felt from the uterine contraction itself.

About half a drachm of chloroform was poured upon a handkerchief in the ordinary manner, but instead of being applied to the mouth it was held in almost immediate contact with the perineum. The pain immediately ceased though the uterine contractions continued in full force; and the first intimation the patient had of the progress of the labor, was hearing the child cry. Her mind was not at all affected, nor was intellectual consciousness in any degree diminished.

He had observed the same thing, though in a less degree, when the chloroform had been applied to the sacrum in another case.

He had also applied this agent to the os uteri of a patient suffering from very severe dysmenorrhea, by means of a sponge placed in a curved glass speculum, which was introduced into the vagina. The pain almost immediately abated, and on its return, after some hours, the patient re-applied it herself with similar benefit.

Dr. Watson mentioned some cases confirmatory of its good effects when locally applied. He had painted it over a swelled testicle, with speedy relief to the pain, and

had applied it along the course of the spine with a similar result in a case of acute spinal tenderness, which had not been relieved by other treatment. He had also applied it to the surface of a large mammary abscess prior to opening it, which was afterwards done without suffering to the patient; and also to the vulva of a woman before cauterizing the orifice of the urethra. It had relieved the cramp and collapse in a case of English cholera when laid upon the epigastrium, and had abated the pain almost immediately when painted around the edge of a surface to which potassa fusa had been applied for the purpose of forming an issue.—*Lon. Med. Gaz.*

---

*On Sanguineous Perspiration.* By Dr. Schneider.—It has often been a question whether, under any circumstances, blood is ever mixed with the fluid of perspiration in human beings. Dr. Schneider remarks that he has several times observed the phenomenon. He mentions having been once summoned to a healthy man, fifty years of age, who, for a period of twelve hours in succession, had travelled on foot; during the journey he had perspired much in his feet; and, on examining them at the end of it, they were found covered as high as the ankles with a sanguineous perspiration, which had also soaked into and stained his stockings.

In another case of a healthy young man, Dr. S. mentions having noticed that, after violent exercise, the perspiration beneath the arms was of a bright red color; and he quotes a similar case from Huffman.

In proof that the perspiration over the whole body may also be of a sanguineous character, he mentions one case in which it had been observed in a delicate man after copulation, and then quotes the following still more remarkable case from Paulina. While surgeon on board a vessel a violent storm arose, and threatened immediate destruction to all. One of the sailors, a healthy Dane, thirty years of age, of fair complexion and light hair, was so terrified that he fell speechless on the deck. On going to him, Paulini observed large drops of perspiration of a bright red color on his face. At first he imagined that the blood came from the nose, or that the man had injur-

ed himself by falling; but on wiping off the red drops from the face, he was astonished to see fresh ones start up in their place. This colored perspiration oozed out from different parts of the forehead, cheeks, and chin; but it was not confined to these parts, for, on opening his dress, he found it formed on the neck and chest. On wiping and carefully examining the skin, he distinctly observed the red fluid exuding from the orifices of the sodoriparous ducts. So deeply stained was the fluid, that on taking hold of the handkerchief with which it was wiped off, the fingers were made quite bloody. As the bloody perspiration ceased, the man's speech returned; and when the storm had passed over he recovered, and remained quite well during the rest of the voyage.—*Casper's Wochenschrift.*

---

*Phlebotomy in Ancient Times.*—In the early ages some of the Abbeys had a bleeding house Phlebotomaria, in which they had four general quarterly bleedings; and in the order of St. Victor, the brethren had five bleedings per annum. Half a century ago, bleeding was generally in fashion in the spring and fall; and surgeons were then never seen without a box of lancets and a red fillet. A fashionable phlebotomizing surgeon has been known to receive above a thousand guineas a year for this operation alone.—*Med. News.*

---

*Calomel on Acute Articular Rheumatism.*—Dr. Leclercq has published in *L'Union Medicale*, several cases of acute articular rheumatism successfully treated by small doses of calomel. Dr. Law, of Dublin, had, so early as 1838, pointed out the advantages of this practice, as Dr. Trousseau, of Paris, has likewise done, in his book on therapeutics; but these physicians used to combine quinine with the calomel, and Dr. Leclercq has obtained very good results by calomel alone. These were the different steps of the treatment:

1. Bleeding, if the subject be plethoric.
2. Calomel in divided doses—viz: one grain of calomel

in about a drachm of white sugar, to be divided into twelve papers; one to be taken every hour.

3. An opiate at night.
4. Cooling drinks.
5. Poultices, sprinkled with laudanum, on the painful joints.

This method has been found to counteract as well, if not better, cardiac complications. Lemon-juice, on the other hand, seems to be a greater favorite in this country, and has yielded excellent results.—*Lancet.*

---

*On Large Doses of Sub-Nitrate of Bismuth in Gastro-Intestinal Affections.* By M. Monneret.—M. Monneret states that he has been for some years engaged in experimenting upon the medicinal qualities of this substance, and that he finds that, given in far larger doses than are supposed to be permissible, it is of the greatest value in gastro-intestinal affections, especially those attended with fluxes.

*Simple Diarrhea.* It is especially in the diarrhea of infants, resulting from imperfect lactation, that he has found it so very useful; large doses curing such in a few days. So, too, after weaning, and the injudicious diet so often adopted, the bismuth, in doses of three teaspoonfuls a day, soon removes all symptoms of disordered digestion, especially the serous diarrhea so often produced in these cases. Simple diarrhea is of much rarer occurrence in the adult; still, examples are met with in which we cannot attribute it to either phlegmasia or ulceration of the intestines, as in the granular disease of the kidneys, in chlorotic women, in women become anemic from cancerous degeneration of the uterus, and in some cases of chronic disease of the heart, or in commencing phthisis. Those cases in which the diarrhea is serous, and results from an atonic state of the gastro-intestinal membranes, best yield to this medicine. It should be given in gradually increasing quantities from two drachms to twelve or more per diem.

*Diarrhea symptomatic of Intestinal Lesion.* In spite of the presence of symptoms indicative of inflammatory action, the author has frequently administered the bismuth

to children with great success. So, too, he has found it very useful in some subjects of phthisis suffering from obstinate colliquative diarrhea, and even in the diarrhea of typhoid fever, when the intestinal canal was certainly the seat of very numerous ulcerations. In this last case its utility is not very permanent; but it has the advantage of inducing the tolerance of articles of diet or medicine, which without it would be rejected.

*Cholerine.* The frequency with which gastro-intestinal disturbance precedes true cholera is well known, and the durability of its suppression is evident; and to this end large doses of bismuth succeed better than any other means. It is most suitable in the cases in which with the diarrhea there are nausea, vomiting, gastralgia, colicky pains, borborygmi, and anorexia. The cases are innumerable, in which the author has been enabled rapidly to relieve these symptoms without any aid from opium, by giving eight or ten drachms per diem. The only inconvenience resulting, is a certain amount of constipation.

*Gastralgia.* Various observers have already admitted the great utility of this substance, both in idiopathic gastralgia, and in the forms dependent upon hysteria, hypochondriasis, chlorosis, &c., &c.; but it has frequently failed in the hands of others, by being given in doses of two or three scruples per diem, in place of twelve or fifteen drachms; and it is taken with such ease, that the patients voluntarily continue its employment after the pain has ceased, until the gastro-intestinal functions are thoroughly re-established. The idiopathic forms of gastralgia, so often met with in sedentary or literary persons, and in those suffering from depressing emotions, or from abuse of alcohol or coffee, are those which are most successfully combatted. It has often, too, enabled the stomach to bear those tonic aliments, whose slow and painful digestion, accompanied by cephalalgia, drowsiness, and pain in the back and limbs, is so often observed in chloro-anemic patients. This medicine only produces a temporary relief in gastralgia, dependent upon organic disease of the stomach, except when this viscus secretes a large quantity of acid fluid.

*Vomiting* Vomiting may depend upon a simple gastric neurosis, and then the bismuth can be very usefully employed. It is also useful in the vomiting of pregnancy,

and in that accompanying dysmenorrhea; but its efficacy is less certain than in affections of the gastro-intestinal tube, and is never so great as when diarrhea, colic, and flatus are present. From whatever cause pain manifests itself during digestion, we may relieve it by mixing the subnitrate freely with the articles of food.

*Administration and action.* It should be given in powder, and best so with the first spoonful of broth or gruel. It excites no disgust, especially if placed between two bits of bread soaked in broth. Children take it readily with milk or ptisans. The author has never given less than from two to three drachms per diem, nor more than twenty, and he has never observed the slightest inconvenience from these large doses; and it is his custom to give it to the children in his hospital by spoonfuls or tablespoonfuls, without observing more exactitude, so innocuous is it. So imperfectly is this fact known, that the chemist hesitates in preparing his prescriptions in which these large doses are ordered. The author cannot conceive why this substance was ever set down as an irritant poison, as he has never found the slightest irritation from the largest doses given to either the healthy or the sick; and post-mortem examination proves that, beyond patches of black discoloration, it produces no effect on the mucous membrane, the consistence of this remaining quite normal. The action of the substance on the canal seems to be quite negative, that is to say, the abnormal symptoms for which it was prescribed quickly disappear. Great attention has failed also to detect any marked effect upon any other part of the system. Perhaps the urine is somewhat increased, and the pulse becomes slower, but this is probably due to the relief of the gastro-intestinal affection. The action of bismuth is then purely a *local* one; and this local action, so far from being an irritant one, as so commonly stated, diminishes the activity of the phenomena of which the mucous membrane is the seat. It is not to be supposed, however, that this inert substance can act actively and directly upon the canal, as a soluble body after absorption does do; and it is probable that it acts merely as an inert body, just as charcoal might do, mechanically protecting the over-excited secretory organs and papilla of the nerves from the too immediate conflict of the fluids, and especially of aliments.

By its mechanical apposition, it limits the amount of exhalation. The allegation of its anti-spasmodic properties has solely arisen from observing the diminution of the symptoms, without considering whether this might not arise negatively from the preservation of the gastro-intestinal surface from the causes of irritation. In this way we might call darkness an antispasmodic, because it allows the repose of the retina, and the subdual of the irritation which gives rise to photophobia.—*Gazette Medicale.*

Of the utility of bismuth in smaller doses in gastric affections, we have almost daily proof; but the doses we are in the habit of employing are so very much smaller than those recommended by M. Monneret, that their beneficial action can scarcely be explained upon the mechanical theory he advocates, which is, however, admirably suited to the explanation of the modus operandi of the very large doses he employs. As somewhat confirmatory of his view, we may mention that M. Belloc, in a recent communication to the Academie, makes mention of the very great benefit derivable from the employment of *charcoal* prepared from poplar shoots, in gastro-intestinal affections. It rapidly subdues pain, facilitates digestion, excites the appetite, and enables medicines that the alimentary canal would not otherwise tolerate to be easily borne.—*Rev. Med. Chir.*

---

*Clinical Reports of Twenty Cases of Sterility.*—By R. Lee, M. D., F. R. S., Fellow of the Royal College of Physicians, Physician to the British Lying-in Hospital, and Lecturer on Midwifery at St. George's Hospital.

Case 1.—Mrs. M——, aged twenty-four, July 29th, 1824, was married the second time ten months ago, and had lived three years with her first husband without ever having become pregnant. Seven months ago, the catamenia became irregular, and she began to suffer from uneasiness and distention of the abdomen on the right side, and at times thought she distinctly felt the movements of an infant. She was afflicted with ovarian dropsy, and died, after having been tapped eight times. On examining the body, I found an enormous cyst, covered with co-

agulable lymph, filling up the abdomen, between which and the omentum, the peritoneum, and most of the pelvic viscera, there was an extensive adhesion. This large cyst was likewise connected with numerous small cysts, and the peritoneum almost everywhere was thickened and studded with tubercles of different sizes. The omentum also presented the same tuberculated appearance. The uterus was indurated, and about four times the natural size. Both ovaria were converted into hard tuberculated masses.

Case 2.—In the year 1825, in the Ukraine, I attended the Baroness F——, who was sterile, and who had likewise for some time been afflicted with what was supposed to be encysted dropsy. I drew off by tapping a large quantity of fluid, and she regained her health, and lived many years after without any return of the dropsy, but had no children.

Case 3.—July 28th, 1828, I examined the body of Mrs. N——, aged forty-three, who died of inflammation of the substance of the lungs, and bilious fever. She had been married many years, and was sterile. The uterus contained several fibro-cartilaginous tumors of different sizes, some under the peritoneum, and one, about midway between the surfaces of the uterus, of considerable dimensions. The preparation is in the museum of St. George's Hospital.

Case 4.—On the 9th of August, 1828, I examined the body of an aged woman, who had died, after nine years' suffering, from a large cyst and tumor in the hypogastrium. A trocar had been introduced, but only a small quantity of fluid escaped. There was a large fibro-cartilaginous tumor, and several small ones, found after death embedded in the walls of the uterus. The right ovarium had been converted into a tumor of similar structure, which weighed six or seven pounds; and connected with this were several cysts, containing a clear fluid. The peritoneum was very much thickened and indurated.—Sterility had existed through life.

Case 5.—On the 21st of December, 1829, a middle-aged woman was admitted into the Middlesex Hospital in an exhausted and almost insensible state, with a large globular-shaped tumor hanging by a thick neck out of the vagina, between the thighs. Three pints of urine were

accumulated in the bladder. The surface of the tumor was covered partially with coagulated blood, and it was extremely painful when touched. It was at first supposed to be the uterus inverted, and attempts were made without effect to reduce it. Afterwards, from a depression in the lower part of the tumor, like the os uteri, it was supposed to be a case of prolapsus uteri, and leeches and fomentations were applied to facilitate its reduction within the pelvis. Abdominal inflammation ensued, and she died on the 31st of December. It was reported that the patient was a married woman, but had been separated some years from her husband, and that she had led an irregular life, and had been subject to prolapsus uteri. It was not ascertained positively whether she had ever been pregnant, but it was certain that she had never carried a child to the full period. The body was examined on the 1st of January, 1830. The tumor, which still hung externally, was found to be a large polypus, attached by a thick root to the anterior part of the cervix uteri. The surface of the tumor was covered by a smooth membrane reflected over it from the mucous membrane of the uterus, with which it was continuous. The uterus was dragged low down into the vagina, but its structure was healthy. The ovaria were enlarged, and partially destroyed by inflammation.

Case 6.—In March, 1831, with Dr. Scott, of Stratton-street, I saw a lady at Mortlake, aged forty-seven, who had been married thirteen years, and had never been pregnant. The catamenia had always been regular. She had long suffered from pain, and sense of distention in the right side of the hypogastrium, and of bearing-down about the uterus. There had also been much uneasiness about the neck of the bladder, but no difficulty in passing the urine. Several years before I saw the patient, Dr. Scott had ascertained that the cavity of the pelvis was partially filled up with an irregular-shaped tumor, which adhered firmly to the back part of the uterus, and the upper part of which could be distinctly felt above the brim of the pelvis on the right side. The lips of the os uteri were healthy, but the orifice was unusually open, and the cervix was shortened, as in the advanced months of pregnancy.

Case 7.—In the month of September, 1832, I was re-

quested by Sir Gilbert Blane to see Mrs. B——, aged sixty-two, who for many years had suffered from constant sense of weight and uneasiness in the back, loins, and hypogastrium, with almost constant purulent and sanguineous discharge from the vagina. She had been married for many years, and had never become pregnant; and from the age of forty-five, when she ceased to menstruate, she had suffered from several severe attacks of uterine hemorrhage. On examination, the hollow of the sacrum was found occupied by a large hard tumor, connected with the posterior part of the uterus. The os uteri had undergone little change; but the particular fetor of the discharge, and the constitutional symptoms, led me to suspect the existence of malignant disease of the uterus. In the course of a few months, after suffering excruciating pain in the region of the uterus, difficulty in passing the urine, with a profuse discharge of thin, offensive fluid from the vagina, several portions of small, irregular-shaped concretions escaped from the vagina, with a temporary relief of the most distressing symptoms. During the remainder of 1832, Mrs. B—— continued to suffer severely from the same symptoms, and she uniformly experienced relief after a calcareous concretion had passed from the vagina, which happened four or five times during that period. In the month of November, 1833, a few days after traveling a distance of eighty miles from the country, she was attacked with rigor, vomiting, exquisite tenderness over the lower part of the abdomen, and other symptoms of peritonitis, and died in forty-eight hours. I inspected the body the following day with Dr. Webster. The usual effects of severe peritonitis were seen on laying open the abdomen. The fundus and body of the uterus were extensively disorganized by malignant ulceration. To the posterior part of the body of the uterus was adherent a large fibro-calcareous tumor, which filled up the hollow of the sacrum, and displaced the rectum. The ulceration had extended through the parietes of the uterus to the tumor. The preparation of the parts is in the museum of St. George's Hospital.

Case 8.—June, 1831. Mrs. R——, aged forty, married fifteen years, without ever having been pregnant. Enjoyed good health until a few months ago, when a swelling appeared in the abdomen. Menstruation has continued

regular till five months ago, then she became sick in the morning, with loss of appetite. There is slight edema of the feet; the symptoms did not arise from pregnancy, but the precise cause was not ascertained.

Case 9.—On the 9th of November, 1832, I saw a lady, aged fifty, who had been married in early life, and who, after giving birth to one child, twenty-six years before, became sterile. The catamenia had continued regular till she was forty-nine; leucorrhea then took place, with frequent, sharp-cutting pains across the loins and within the pelvis, in the situation of the uterus. There was weakness and numbness in the lower extremities, but no swelling. She had consulted Dr. Merriman a year and a half before, who stated that her symptoms arose from change of life, and the presence of a "substance growing in the urinary passage." The os uteri was so high up in the pelvis, that it was reached with great difficulty, and whether the uterus was sound, I could not possibly determine. The symptoms disappeared to a great degree in the course of a few months, but whether they returned I was not informed.

Case 10.—On the 23d of November, 1832, I saw a lady aged thirty-seven, who had been married in early life, and had no children. She reported that she had miscarried several times, but there were circumstances communicated by Dr. Burder, which cast a doubt upon the accuracy of this statement. A tumor had been removed from the vagina some years before, and she had afterwards suffered much from pain in the back, sense of throbbing, weight, and bearing-down in the pelvis, with frequent, almost constant, profuse discharges of various colored fluids from the vagina, sometimes like pus, at other times like water. Coagula were passed with great pain at the monthly periods, attended with sickness and faintness.—The uterus was low down in the pelvis, the orifice was smooth and healthy, but the body was very considerably enlarged. The precise cause of this enlargement could not be determined, and how the case terminated I could never learn.

Case 11.—On the 7th of December, 1832, with Dr. Davy and Mr. Palmer, I saw a case in which there was a hard irregular tumor of considerable size growing from the inside of the posterior lip of the os uteri. It was re-

moved with a ligature; but being of a malignant nature, the patient ultimately died of cancer uteri. She was thirty-eight years of age, had long been married, and was barren.

Case 12.—Mrs. C——, aged forty-four, December 14th, 1832. In July last, began first to suffer from disorder of the bowels. After that, felt something unusual about the uterus, brought on, as she supposes, by over-walking.—Had one child twenty-two years ago; no miscarriages; no leucorrhea; great bearing-down pain on the left side of the pelvis, and pain extending down the left thigh and leg; no swelling; uterus felt large, but orifice healthy.—The probability is, that the uterus is enlarged from fibrous tumors in the walls.

Case 13.—August 21st, 1833. Mrs. N——, aged thirty, has been married twelve years, and has had no child. She has suffered at intervals, for several years, from some affection of the kidneys and bladder; the catamenia are regular, but accompanied with great pain, and, in the intervals, there is copious leucorrhea. She is subject to attacks of faintness, and is obviously very hysterical. Two years ago she consulted Sir Charles Clarke, who examined the uterus, and declared that it was perfectly healthy. I repeated the examination, and could discover no disease of the uterus.

Case 14.—On the 11th of December, 1833, at the request of Dr. Burder, I saw Mrs. H——, aged twenty, who had been married eighteen months without having become pregnant, and who, I believe, has since continued sterile. The catamenia were regular, and without pain. There was profuse leucorrhea, with great irritation of the vagina, and parts around its orifice, and tenderness of the hypogastrium, and various hysterical symptoms. The os and cervix uteri were healthy.

Case 15.—On the 1st of January, 1834, I saw Mrs. T——, aged thirty, who had been married five years, and was sterile. Menstruation was regular, but painful.—There was some leucorrhea, but I could detect no disease of any kind in the uterus.

Case 16.—On the 12th June, 1834, with Dr. Scott, at Barnes, I saw a lady, aged forty, who had been married seventeen years, and had no family. For two years and a half she had complained of great irritation and swelling

about the vagina, and had suffered much from an acrid leucorrheal discharge. She had consulted Sir C. Clarke, who had prescribed cupping on the sacrum. She has lately felt an unusual enlargement of the hypogastrium. Catamenia regular. "Distinct swelling in the hypogastrium. There is a distinct enlargement behind the uterus, and I think I can feel a fluctuation in it."

Case 17.—On the 20th July, 1834, I saw a patient, aged thirty, who had been married twelve months, and had not become pregnant; the contracted state of the vagina, indeed, rendered this impossible. There was a hard ring near the orifice, through which the point of the finger could not by any degree of force be passed. Mr. Jones, of Soho-square, saw this case with me, and we resolved to dilate the contracted part slowly with bougies. Threatened attacks of peritonitis repeatedly occurred after the bougies were employed, and the complete dilatation of the part was not effected till the close of November.—The sterility was not removed. The orifice and cervix uteri did not require to be dilated, as they were pervious.

Case 18.—On the 13th August, I saw a lady, aged thirty-six, at Barnes, under the care of Dr. Scott, who had been married twelve years, and was sterile. She had long suffered severely from hysteria, and for several years there had been observed an enlargement of the left side of the abdomen, which increased to a great size, and when I first saw her, it was obvious that she was laboring under ovarian dropsy. Tapping was repeatedly performed, and death took place in 1836.

Case 19.—Mrs. H——, aged twenty-eight, August 20, 1834, married eight years, never pregnant; four years ago, had an affection of the spine, and ever since has suffered severely from pain in the epigastrium and indigestion; catamenia regular, but scanty; no disease of any kind detected in the uterus.

Case 20.—Mrs. A——, aged thirty, October 9, 1834, married fourteen years; second husband; two children soon after her first marriage, none since her second. The abdomen is large, and she feels at times a fluttering sensation, like the movements of a child; menstruation irregular; at Christmas, passed three months without any appearance; since then has been regular; sickness in the morning; appetite bad; edema of the feet and ankles in

the evening; has difficulty at times in retaining the urine. She has consulted an eminent accoucheur, who has expressed a doubt of her pregnancy. Three months ago, she was examined with the stethescope, by another practitioner in midwifery, declared to be pregnant, and requested to provide her nurse. The labor did not take place at the expected time, and when I examined the uterus, found it in the unimpregnated state.

---

*On the use of Etherial Solution of Gun Cotton in the cure of Erectile Tumors without Operation.* By Daniel Brainard, M. D., Prof. of Surgery in Rush Medical College, Chicago.—This adhesive liquid which was ushered into the profession with great recommendations as a substitute for needles in cases of hare lip, and for adhesive plaster in wounds, seems to have failed in fulfilling the expectations which were excited of its usefulness, and to have become rather an article of the *toilette*, and a substitute for court plaster, than a useful addition to our surgical armory. Struck, however, in the experiments with it, with the contractile power it possesses, I determined to test its application to the surface of any erectile tumor which might present itself for treatment.

During the last winter a case of nævus of the size of a very large strawberry, situated on the anterior fontanelle of a young infant, was presented for operation. I immediately covered it with a solution of gun cotton, and, although it was much elevated above the surface, had the satisfaction of seeing it brought by the contractile power of the liquid in drying to a level with the sound skin. It was allowed to remain for several weeks, and then a fresh application made; and at the present time scarcely any trace of the nævus remains, although but two applications have been made.

The next case was that of a young child, with a nævus three fourths of an inch in length, and half an inch in breadth, situated beneath the right eye. This at birth was scarcely perceptible; but in six moths had acquired the size mentioned, and was rapidly increasing. In order to avoid the irritation resulting from its proximity to the eye, the application was made during the sleep of the in-

fant, and was required to be renewed twice a week, on account of its becoming loosened. After two months use, the nævus is scarcely perceptible, and the use of the solution has been for sometime discontinued.

It is not improbable, that by preventing the necessity of resorting to operations in such cases, this liquid may find a use more important than any to which it has before been applied.—*North-western Med. and Sur. Journal.*

---

*On the use of Chloroform in Periodical Neuralgia.* By Daniel Brainard, M. D., Prof. of Surgery in Rush Medical College.—The districts where periodical fevers prevail, are also those where periodical neuralgias are most frequently observed; and these latter constitute a class of disease generally more obstinate and often more fatal than the febrile disease with which they are associated. Having often found them resist the action of quinine, arsenic, iron, narcotics, &c., I was induced, at length, to try the effect of the inhalation of chloroform, and with results so satisfactory that I am induced to offer the following cases, in illustration of its beneficial operation, to the profession.

I was called to visit Mrs. D., of Chicago; she was affected with a severe pain in the left eye, to which she had been subject, in the spring, for several years previously, and which has each time proved very severe and difficult of cure. The disease here existed a few days, occurring daily at 10 o'clock, A. M., occasionally attended with coldness of the extremities, great heat in the head, with excruciating pain in the eye, with profuse flow of tears and photophobia. The pain lasted in all its intensity about four hours, when it gradually diminished and passed off, its cessation being attended by a profuse perspiration.

The bowels being free, the patient was ordered sulph. quinine grs. x, pulv. opii grs. iij, at 6 o'clock, A. M., and be repeated at 9 o'clock, just before the expected return of the paroxysm. It returned with its usual severity, and the next day the same doses were repeated without any better results. At 12, A. M., of the same day, being called, on account of the intensity of the pain, I took a

bottle of chloroform, and administered gradually by inhalation: the pain was greatly mitigated, and by frequent application was kept so light as to be easily borne. On the third day I was present at the hour of accession, and as soon as the symptoms of it appeared, used the chloroform to the effect of perfect insensibility. All symptoms immediately ceased, the patient fell into a sleep, with perspiration; and for upwards of a year, while under my observation, had no return of the disease, and enjoyed perfect health.

Case II. Mrs. A., residing ten miles north of Chicago was seized in December, 1848, with a severe pain in the left eye, extending to the forehead and temple, which was so severe as to cause delirium; with coldness of the extremities, and pulse scarcely perceptible at the wrist. The husband called for me in great alarm, but being unable to visit her that day, I gave him a prescription of sulph. quinine grs. v, pulv. opii gr. j, to be repeated every three hours till six doses had been taken.

On his return home, having been absent about three hours, he was much surprised to find his wife free from pain, and supposing all danger past, neglected to give the medicine until next day, when, at the same hour, the attack returned. I saw her about three hours after the attack and found her in a darkened room, with a bandage on her eyes, hands and feet cold, great heat in the head, and weak pulse. She had taken one dose of the medicine without any effect.

I immediately put a few drops of chloroform on a handkerchief, and requested her to inhale it, which she did with frequent smelling for thirty minutes, when she expressed some surprise that the pain was gone, and asked what it was she had been smelling of. In the course of a few minutes she raised the bandage from her eyes and conversed cheerfully for half an hour. I then directed her to take one of the powders morning and evening, and have since learned that she has had no return of the disease.

Case III. Miss N., a teacher, has been subject for several years to a neuralgia of the face, severe but irregular in in its situation and return. In March last she had an attack so severe as to unfit her for her ordinary pursuit. I prescribed sulph. quinine 5 gr. doses and direct-

ed her to inhale chloroform for the relief of the paroxysms. This she did but sparingly on account of a strong aversion to it, but found so great relief that she continued to employ it several times daily, in doses of about 20 drops, for two weeks, the attacks becoming gradually milder, and ceasing altogether at the end of that time.

This latter case is given to illustrate the difference between secondary neuralgia and that of a strictly periodic kind. In the former the chloroform seemed to have but a temporary effect, but increasing with frequent repetition, in the latter its influence is more decided and permanent, and corresponds to the influence of etherial inhalations, in paroxysm of regular ague, as described by Dr. Freer in a former No. of this Journal.—*Ib.*

---

*Arsenic in Cutaneous Diseases.*—Arsenic should never be given when there is any inflammatory action about the system, otherwise this state is sure to be increased; all the functions must first be brought into a healthy condition.

Whatever be its modus operandi in the cure of skin disease, my experience goes decidedly to establish the tonic action of arsenic. Under its use alone and without any alteration in diet or residence, I have seen marked improvement, not only in the disease, but in the general health of the patient; these, in fact, seem to go hand in hand. Herein is shown its specific action, as distinguished from other tonics; these, when exhibited, cause improvement of the health, but exert no apparent influence on the eruption. I am aware that in this opinion I differ from one of our chief authorities, Dr. Pereira, who, though he has tried it extensively, and with his attention directed to this point, has been unable to satisfy himself of its right to be classed as a tonic; the appetite of his patients sometimes improved while taking it, in no other respect was its tonic action shown. Vogl, (Pharmakodyn,) and many others, have arrived at the opposite result.

And here I would advert to the common mode of giving arsenic—i. e. in increasing doses. What tonic could

be given in such a manner without danger of producing severe constitutional disorder? It is the peculiarity of this class of medicines, that their action is so gradul as to be almost imperceptible, days, or perhaps weeks, being required to show any decided effect. Thus is it with arsenic; though its action is more manifest from the complaint being external. Arsenic ought, therefore, to be given in moderate, or what might be called tonic doses, at first until the system comes under its influence; these must be diminished, if it affects the patient too severely. The action of arsenic seems to be more direct on the tegumentary tissues, the skin, and mucous membranes, and its influence is nearly always first manifested on the tarsal conjunctiva; hence we have a ready guide to its exhibition. The degree at which we wish to arrive, is a very slight injection of the membrane; if it goes beyond that point, and more severe irritation is caused, then the eruption becomes inflamed, and even spreads; this may in almost every case be prevented by diminishing the dose.—If the system be kept in this state, no injurious operation need be feared. Five minim doses of Fowler's solution may be safely given at first to a person who is moderately strong, has not had its constitution injured by its abuse and who is not unusually intolerant of it. Cases will, however, present themselves to the practitioner, in which it will be advisable to begin with a smaller dose than this; indeed, if there be any doubt, it is better to give the smaller dose, two, three, or four minims, and pursue it for a longer time; the system is sure, though at a later period, to come under its power. The disease is generally seen to date its improvement from the time of the first affection of the conjunctiva.

Again, arsenic should be taken with the meals, or on a full stomach; this serves to dilute it, and prevents the gastric irritation which so frequently follows when it is exhibited without this precaution.

The decided influence which this remedy has over certain eruptive disorders, is shown not merely by their amelioration under its proper use, but more manifestly by omitting it for a time, as I have frequently done, and invariably has the disease recommenced spreading as soon as the system had got rid of the arsenic, as shown by the subsidence of the conjuctivitis, and its course has been again stayed after the medicine has been resumed.

# THE WESTERN JOURNAL.

THIRD SERIES.—VOL. IV.—NO. V

LOUISVILLE, NOVEMBER 1, 1849.

---

### MEDICAL DEPARTMENT OF LOUISVILLE UNIVERSITY.

The present session of the medical school in this city has opened under the most favorable auspices. A large and highly respectable class is already in attendance, and the prospect is flattering for considerable accessions to it. It is unnecessary for us to say anything of the teachers in this school, who have long been connected with it—the past success of the institution is ample evidence of the character of their labors, and of the appreciation of those labors, by the medical mind of the West. But in a Journal, devoted to the advancement and usefulness of the medical profession, it is proper that something shall be said of the increased means of medical instruction which the trustees of the University have secured to the school.

It is known to our readers that Prof. Bartlett, already well and favorably known to the profession both at home and abroad, has accepted the chair of Theory and Practice in the Louisville medical school. A long and intimate acquaintance with the character of this distinguished teacher enables us to speak understandingly of him, and we feel no kind of hesitation in ranking him among the first in his department of medical teaching in this country. He has been a close and diligent student of his profession in the fields of observation, and his contributions to the literature of his profession, and the estimation in which they are held, are a monument in testimony to his merits beyond anything we can say.

Our veneration for this distinguished philosopher is so great, that, if it were not for the fact, that our views of his position as a teacher are in accordance with the general verdict of the profession, we should suspect that a personal regard for him had something to do with our estimate.—But we have no kind of fear as to the position he will occupy in the mind of his classes as a teacher of the theory and practice of medicine. His literary acquirements, his stores of experience in medicine, and the high cultivation of his ample opportunities are sufficient guarantees of what may reasonably be expected from his connection with the Louisville medical school. He has found a proper field now for the exercise of his abilities, and he will give to his chair a character which it has not hitherto possessed. His profound acquaintance with the principles of pathological anatomy is one of the chief elements in his success as a teacher, and is the foundation of much of our hope in his teaching.

The warm attachment we feel to the profession that has occupied much the largest portion of the term of our manhood, induced us to hail the appointment of Dr. Bartlett, to the chair of Theory and Practice in the Louisville medical school, with a sincere satisfaction, because we felt secure in the belief that it would contribute in an eminent degree to the elevation and usefulness of western medicine. The city authorities have erected a commodious room, in connection with the hospital building, for clinical teaching, and Professor Bartlett will give that department a degree of usefulness and success it has never attained before in the West. Demonstrative teaching of pathological anatomy, and appropriate lectures in clinical medicine are the only means, that we know of, for success in medical teaching, and where they are properly attended to, they must command the confidence of the profession. No amount of eloquence, or of medical reading, can offer any substitute for these means of teaching medical science. A school that is defective in them is deficient in everything that can give character and utility to medical instruction. We feel a peculiar gratification in knowing that the Louisville school is amply secured in the departments of teaching, of which we speak, and for this reason we feel a strong confidence that this institution deserves and will enjoy the respect of the profession of the country. Everything that can in any degree qualify men for the successful practice of the art and science of medicine may be found in the Medical Department of the University of Louisville.

Professor Bartlett has commenced his course of lectures, and we are happy to say that his health, long enfeebled by lead poison, is invigorat-

ed to such a degree that his friends entertain the confident hope that he will ultimately get rid of all of the effects of his malady. His manifest improvement agreeably disappointed us, and relieved us of much of the apprehension we had felt respecting his constitution. His health is amply sufficient now for the vigorous performance of his arduous duties.

Professor Benjamin Silliman, Jr., who fills the chair of Chemistry under the new arrangement, is discharging his duties with eminent success. He is a remarkably agreeable, instructive and impressive teacher, and cannot fail to win the confidence and esteem of his classes. No one has a more thorough knowledge of the science of chemistry, and he dispenses the rich stores of his knowledge with singular ability. In the manipulations of chemistry he has no superior.

Dr. Lewis Rogers, Professor of Materia Medica, has barely commenced his career as a teacher, but we entertain no doubt of his success. He enjoys the means of making himself an able instructor in his department, and cannot fail to win his way to distinction. He has won eminence as a practitioner of medicine, and will be equally successful in the teaching department of his profession.

We are gratified that the medical school of Louisville is thus invigorated for its labors, and we shall at all times rejoice in seeing her seize upon everything that will contribute to the elevation and extension of medical science.

B.

---

PROFESSOR DUDLEY'S SURGICAL PAPERS.

We were pleased, some time since to see that a medical journal was to be published in Lexington, Ky., and that among its claims to the confidence and support of the profession, was an announcement that Professor B. W. Dudley would contribute to its pages the results of his long and useful career as a surgeon. The eminent opportunities he has enjoyed in practice, for contributing to the advancement of surgical science, made us hail this announcement with no ordinary pleasure. We know of no American surgeon who has had it in his power to do more for his art, and we have often regretted that he has done so little of a permanent character. We are not, by any means, fond of the mere book-maker, but Prof. Dudley owed to his profession much more extensive printed contributions than he has made. Sir Astley Cooper, in the midst of labors as a teacher and practitioner of surgery, quite as onerous as those of Professor Dudley, found time to publish a series of works

on surgery that will live as long as surgery is practiced as an art, and which constitutes an imperishable monument to his fame. The motto of these works is that which every man who has had Prof. Dudley's opportunities should wear as a frontlet to the eyes—"Duty recognized, and duty performed." We should rejoice to be able to say that Prof. Dudley has done in this respect, what the profession had a right to expect from him. He was the founder of western surgery, and for a long series of years, he justly enjoyed a monopoly of all the important surgery of the Ohio and Mississippi vallies. Of his eminent abilities as a surgeon, there never was a doubt, and his means of observation have been superior to those of any other American surgeon, Dr. Physic alone excepted. He has also long been eminent as a surgical teacher, and with his various and ample opportunities of usefulness, we repeat, his professional brethren had a right to expect from him some contributions, of a permanent character, to surgical science. Hitherto these just expectations have not been realized. Years have been permitted to rush by as the winds, and no advantage was taken of their gliding hours. We fear that it is now too late for Professor Dudley to do much as a writer, that will be equal to his reputation, or that will have the effect of exalting his favorite department of medicine. Author-craft comes not in the evening of life, at the call of any one, or from the mere desire for it.—As in all other matters of human excellence, it requires discipline, training and experience, and these were all neglected, by Prof. Dudley, up to a period when we fear they can be used to little or no advantage. It is with more than ordinary regret that we indite these sentiments, and we should greatly prefer, if the opportunity were afforded to us, to say that Professor Dudley had answered the just expectations of his medical friends, by a work on surgery worthy of his great reputation. But the golden opportunity for such a work has been permitted to trend its way into the grave of past years, and it cannot be wooed back, even by more assiduous courtship than Prof. Dudley is likely to give it.

One of our collaborateurs in the present number of the Journal, has reviewed Prof. Dudley's first contribution to the Lexington Medical Journal, in a style somewhat more severe than we should have employed, but the criticism is one of much ability, and has no spirit of unfairness. While commenting on Prof. Dudley as an author, the writer does justice to his merits as a surgeon, and no doubt feels regret that he could not say more creditable things of Dr. Dudley's authorship. The judgment of the profession will coincide with that of the reviewer, and with more of a feeling of sorrow than of anything else.

Professor Dudley has done much himself to defeat the success of his printed contributions to surgery. He was so constantly in the habit of hacking at "the books," in his lectures, that he created a distaste for any kind of reading, and made the élèves of his courses look with suspicion upon all printed principles. He always seemed to look upon surgical books as antagonistic to himself, and as enemies who were to be cuffed whenever an opportunity presented itself. The direct effect of these sneers at "the books" was to narrow and confine the minds of students, and to make them conclude that the horizon of surgical instruction was the walls of the amphitheater, beyond which sunrise was unknown.

We look back upon Professor Dudley's teaching with the warmest feeling of reverence, tempered with sorrow that he has been so unjust to his own great fame. The world would not willingly let the name of such a man as Professor Dudley die, except by his own act. Age has overtaken him entirely unprepared for the work, which he now shows he feels should be done; the duty is recognized, when it is too late to perform it. "Fast anchored in the past" stands all hope of success, and futile are all efforts to release it from the slough of time-worn neglect. None but those who have experience can know the trials and discipline necessary to successful composition. The painful study, the sleepless nights, the repeated revision, and constant siftings of thought are unknown to all but the initiated. One who knew of what he was speaking, uttered, in a witticism, a sound canon in rhetoric—it is: "Easy writing makes hard reading." We shall rejoice, however, to find in Professor Dudley's future papers on surgical practice, some of those redeeming traits, that are absent from his first. B.

---

### ADULTERATED MEDICINES.

At the last meeting of the American Medical Association a committee of two members from each State and Territory was appointed, whose duty it was made "to note all the facts that come to their knowledge with regard to the adulteration and sophistication of Drugs, Medicines, Chemicals, &c., and to report them through the chairman at the next annual meeting." Prof. Huston, of Philadelphia is chairman of the committee. The subject is one which the Association deemed of great importance, and which we hope will receive at the hands of the committee a thorough investigation. We have to ask of our readers to

communicate to us any facts in relation to it which may come to their knowledge. If we can excite the attention of practitioners generally in reference to the matter, we may hope to ascertain whether the medicines used by them are of the proper character.

---

### PROFESSOR MILLER'S WORK ON HUMAN PARTURITION.

We are happy to find that the favorable opinion we expressed of this book, is abundantly confirmed by the "American Journal of Medical Sciences." The last number of that leading American medical periodical gives a very commendatory review of the book, and does justice to its merits.

B.

---

### LEAD POISON.

We have reason to fear that the lead pipe is coming into more extensive use in the West than is consonant with health. Its cheapness when compared with the copper and the malleable iron pipe, the ease with which it can be bent to meet any exigency, and the ignorance of its deleterious qualities that prevails are making the lead to be quite an article of western commerce, and we think it important that western and southern physicians should be put upon their guard. The profession is familiar with the researches of Sir George Baker, Mr. Burton, John Hunter and M. Tanquerel, but their investigations were confined in a great measure to the results of the action of lead introduced into the system by manufacturing white lead, the use of it by painters, and that employed in the manufacture of cider, wines, &c. Those who may consult Tanquerel's valuable pages, will be astonished at the great number of cases of lead poison that came under his observation. But it is not our object to refer particularly to this branch of the subject. The phenomena of lead poison may be found very fully detailed in works of practice, and are familiar to all well read physicians.

The poisonous properties of *water* conveyed through leaden pipes are not so generally known, and we feel it incumbent on us to call the attention of our medical brethren to the subject. The lead pipe should not be used for the conveyance of water for man or beast, and as the profession is often consulted on subjects of this kind, we proceed to lay before it some facts which have been substantiated by an extended investigation in Massachusetts.

In the American Journal of Medical Sciences for the October quarter, we find a valuable case of lead poisoning reported by Dr. Dalton, of Boston, and he mentions, incidentally, symptoms of less gravity in other persons, than those presented in his case. It is clearly shown, that the child, whose case Dr. Dalton details, imbibed the lead poison by the use of water conveyed in lead pipes.

Dr. Dana, of Lowell, Massachusetts, in a pamphlet quoted by Dr. Dalton, has conclusively established the fact that the lead pipes which convey water in that city are often so extensively corroded, that they need the services of the plumber. Dr. Dalton says: "I have in my possession a piece of lead pipe from one of these wells, [at Lowell] the surface of which is irregularly corroded, as if worm-eaten, over its whole extent, and at several points complete perforation has taken place. This fact, therefore, that lead pipes are corroded and perforated by the water of some wells, is a sufficient refutation of the theory of its protection by saline matter, however respectable may be the authority by which this theory is advanced. In one of Sir George Baker's earliest communications to the London College of Physicians on this subject, there is a letter from a Dr. Wall, who gives an account of a certain family in his neighborhood, of whom the mother was paralytic, and the children all subject to disorders of the bowels. Several of the family died, and the house was sold. The next occupant found the 'leaden pump' belonging to the premises in so leaky a condition, from corrosion of the lead, that it was necessary to repair it, and the pump maker who was employed said that he had several times been obliged to do the same thing, on account of the same difficulty, during the stay of the original occupants." The facts on this subject are too numerous to permit any doubt as to the deleterious effects of water conveyed in lead pipes, and it should not be forgotten that cows, horses and sheep are as susceptible of the poisonous influence as man. Those who are familiar with the history of the "lead hills" of Scotland, are in possession of many valuable facts as to the effect of lead upon the lower order of animals.

Professor Horsford, of Cambridge University, U. S., has contributed a valuable paper on "the action of water on leaden service pipes." It is valuable on account of the details given for the detection of the presence of small quantities of lead in water, but we cannot now spare the space for these details. We return to Dr. Dalton's valuable paper. He says: "Dr. Dana ascertained that the natural waters of Lowell all contain saline ingredients, the most abundant of which are sulphate of iron,

nitrate of lime, and chloride of sodium; and that the waters of the district called Chapel Hill, [in which cases of lead poisoning were numerous and severe] abounded chiefly in sulphate of iron. Dr. Dana concluded that, if natural waters contained only one salt, the exact proportion and protective action of which could be easily ascertained, the whole matter would be very simple;—but in point of fact, there are several salts existing together in solution in well water, very often in company with vegetable acids; and that these act on each other, and modify each other's action on the lead."

"The dangerous results liable to ensue from this mutual action are principally three-fold.

"I. The production of chloride of lead, which is soluble in water.

"II. The production of nitric acid, which readily dissolves lead, &c.

"III. The production of carbonate of lead, which, though insoluble, is liable to be introduced into the system in a state of suspension, and is, therefore, nearly or quite as dangerous as if soluble."

These are the sources of danger, and should be attended to by medical men. And Liebig's suggestion should not be forgotten—that persons exposed to the dangerous action of lead, may find a protection in sweetened water, acidulated with sulphuric acid.

There can be no apology for the use of the lead pipe. The great improvements made in the manufacture of cast iron pipe render the latter a perfectly eligible article for the uses to which the lead pipe has been appropriated. In the large establishment of P. R. Gray & Son, in this city, cast iron pipes are made that may follow as crooked and winding a path over a house as lead can be made to do, and they make a more ornamental work. Whatever the cast iron pipe may impart to water conveyed through it, we know to be salutary, and the difference between the lead and cast iron pipe for conveying water, is the difference between a poison and a tonic, between death and life. B.

---

### EPIDEMIC DYSENTERY.

Dysnetery has prevailed in an epidemic form in many sections of the country, during the past summer, in some even exceeding the cholera in fatality. We are promised some papers on the subject by correspondents who witnessed the disease, and should be glad to receive communications respecting it from all who are able to contribute original observations as to its rise, pathology or treatment.

# CONTENTS

OF NO. V.

## ORIGINAL COMMUNICATIONS.

### ESSAYS AND CASES.

ART. I.—Practical Medicine and Surgery. By T. S. BELL, M. D., of Louisville, Kentucky, - - - 417

### REVIEWS.

ART. II.—On the Treatment of Aneurism. By BENJAMIN W. DUDLEY, M. D., etc., Professor of Surgery in the Transylvania University, - - - - - 467

ART. III.—Manual of Physiology. By WILLIAM SENHOUSE KIRKES, M. D. Assisted by JAMES PAGET, Lecturer on General Anatomy and Physiology, at St. Bartholomew's Hospital, - - - - - 475

### SELECTIONS FROM AMERICAN AND FOREIGN JOURNALS.

Cases of Variola and Vaccine, - - 425
Reflex Nervous Action of the Uterus, - - - 430
On the Treatment of Pericarditis; especially on the Effects of Bloodletting and Mercury in that Disease, - - 432
Anesthesia from the Local Application of Chloroform, 435
On Sanguineous Perspiration, - - - - 436
Phlebotomy in Ancient Times, - - - 437
Calomel in Acute Articular Rheumatism, - - - 437
On Large Doses of Sub-Nitrate of Bismuth in Gastro-Intestinal Affections. - - - - - - 438
Clinical Reports of Twenty Cases of Sterility, - - 441

On the Use of Etherial Solution of Gun Cotton in the cure of Erectile Tumors without Operation, - - 448
On the Use of Chloroform in Periodical Neuralgia, - - 449
Arsenic in Cutaneous Diseases, - - - - - 451

ORIGINAL INTELLIGENCE.

Medical Department of Louisville University, - - 453
Prof. Dudley's Surgical Papers, - - - - 455
Adulterated Medicines, - - - - - 457
Prof. Miller's Work on Human Parturition, - - 458
Lead Poison, - - - - - 458
Epidemic Dysentery, - - - - 460